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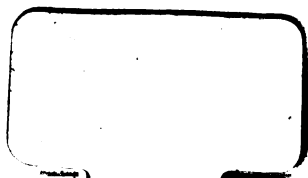
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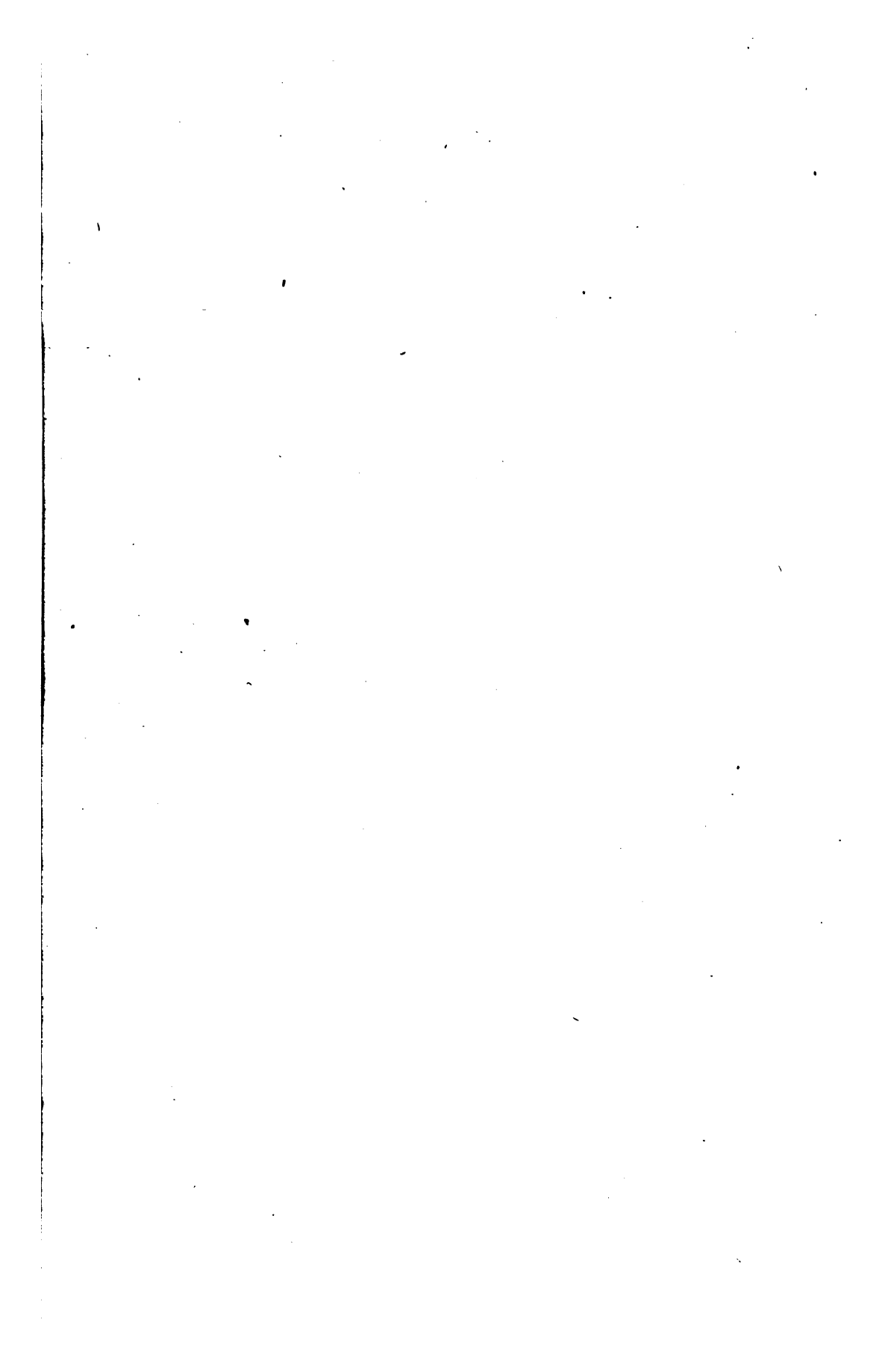


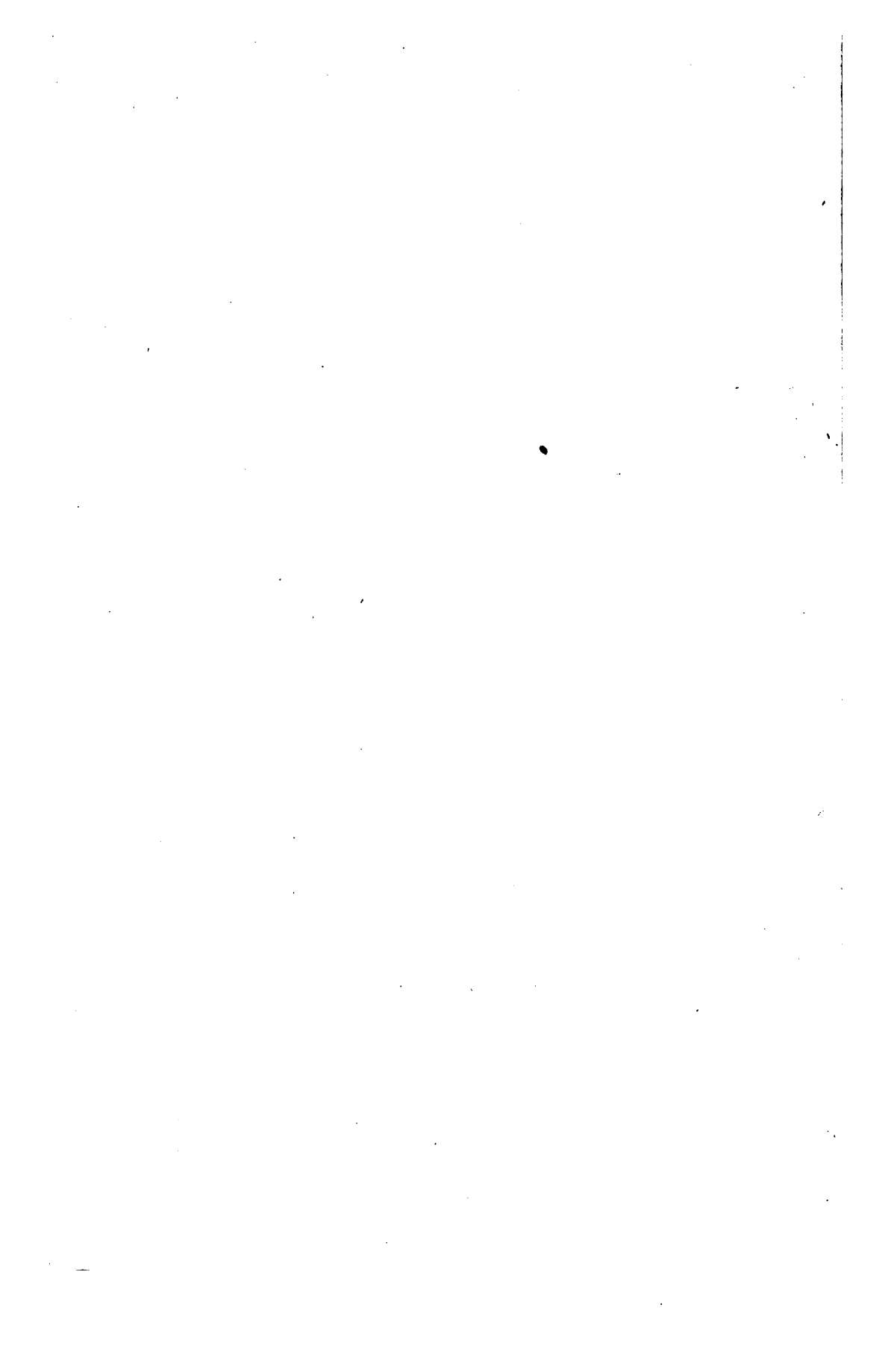
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FOUR-PLACE TABLES OF LOGARITHMS

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TABLE I

FOUR-PLACE LOGARITHMS OF NUMBERS

This table gives the mantissas of the common logarithms (base 10) of the natural numbers (integers) from 1 to 2000, calculated to four places of decimals.

A logarithm found from this table by interpolation may be in error by one unit in the last decimal place.

TABLE I. LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9	Prop. Parts	
100	0000	0004	0009	0013	0017	0022	0026	0030	0035	0039	Extra digit	Difference
101	0043	0048	0052	0056	0060	0065	0069	0073	0077	0082		
102	0086	0090	0095	0099	0103	0107	0111	0116	0120	0124		
103	0128	0133	0137	0141	0145	0149	0154	0158	0162	0166		
104	0170	0175	0179	0183	0187	0191	0195	0199	0204	0208		
105	0212	0216	0220	0224	0228	0233	0237	0241	0245	0249		
106	0253	0257	0261	0265	0269	0273	0278	0282	0286	0290		
107	0294	0298	0302	0306	0310	0314	0318	0322	0326	0330		
108	0334	0338	0342	0346	0350	0354	0358	0362	0366	0370		
109	0374	0378	0382	0386	0390	0394	0398	0402	0406	0410		
110	0414	0418	0422	0426	0430	0434	0438	0441	0445	0449		
111	0453	0457	0461	0465	0469	0473	0477	0481	0484	0488		
112	0492	0496	0500	0504	0508	0512	0515	0519	0523	0527		
113	0531	0535	0538	0542	0546	0550	0554	0558	0561	0565		
114	0569	0573	0577	0580	0584	0588	0592	0596	0599	0603		
115	0607	0611	0615	0618	0622	0626	0630	0633	0637	0641		
116	0645	0648	0652	0656	0660	0663	0667	0671	0674	0678		
117	0682	0686	0689	0693	0697	0700	0704	0708	0711	0715		
118	0719	0722	0726	0730	0734	0737	0741	0745	0748	0752		
119	0755	0759	0763	0766	0770	0774	0777	0781	0785	0788		
120	0792	0795	0799	0803	0806	0810	0813	0817	0821	0824		
121	0828	0831	0835	0839	0842	0846	0849	0853	0856	0860		
122	0864	0867	0871	0874	0878	0881	0885	0888	0892	0896		
123	0899	0903	0906	0910	0913	0917	0920	0924	0927	0931		
124	0934	0938	0941	0945	0948	0952	0955	0959	0962	0966		
125	0969	0973	0976	0980	0983	0986	0990	0993	0997	1000		
126	1004	1007	1011	1014	1017	1021	1024	1028	1031	1035		
127	1038	1041	1045	1048	1052	1055	1059	1062	1065	1069		
128	1072	1075	1079	1082	1086	1089	1093	1096	1099	1103		
129	1106	1109	1113	1116	1119	1123	1126	1129	1133	1136		
130	1139	1143	1146	1149	1153	1156	1159	1163	1166	1169		
131	1173	1176	1179	1183	1186	1189	1193	1196	1199	1202		
132	1206	1209	1212	1216	1219	1222	1225	1229	1232	1235		
133	1239	1242	1245	1248	1252	1255	1258	1261	1265	1268		
134	1271	1274	1278	1281	1284	1287	1290	1294	1297	1300		
135	1303	1307	1310	1313	1316	1319	1323	1326	1329	1332		
136	1335	1339	1342	1345	1348	1351	1355	1358	1361	1364		
137	1367	1370	1374	1377	1380	1383	1386	1389	1392	1396		
138	1399	1402	1405	1408	1411	1414	1418	1421	1424	1427		
139	1430	1433	1436	1440	1443	1446	1449	1452	1455	1458		
140	1461	1464	1467	1471	1474	1477	1480	1483	1486	1489		
141	1492	1495	1498	1501	1504	1508	1511	1514	1517	1520		
142	1523	1526	1529	1532	1535	1538	1541	1544	1547	1550		
143	1553	1556	1559	1562	1565	1569	1572	1575	1578	1581		
144	1584	1587	1590	1593	1596	1599	1602	1605	1608	1611		
145	1614	1617	1620	1623	1626	1629	1632	1635	1638	1641		
146	1644	1647	1649	1652	1655	1658	1661	1664	1667	1670		
147	1673	1676	1679	1682	1685	1688	1691	1694	1697	1700		
148	1703	1706	1708	1711	1714	1717	1720	1723	1726	1729		
149	1732	1735	1738	1741	1744	1746	1749	1752	1755	1758		
150	1761	1764	1767	1770	1772	1775	1778	1781	1784	1787		
No.	0	1	2	3	4	5	6	7	8	9		

TABLE I. LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9	Prop. Parts	
150	1761	1764	1767	1770	1772	1775	1778	1781	1784	1787	Extra digit	Difference
151	1790	1793	1796	1798	1801	1804	1807	1810	1813	1816		
152	1818	1821	1824	1827	1830	1833	1836	1838	1841	1844	1	0.3
153	1847	1850	1853	1855	1858	1861	1864	1867	1870	1872	2	0.6
154	1875	1878	1881	1884	1886	1889	1892	1895	1898	1901	3	0.9
155	1903	1906	1909	1912	1915	1917	1920	1923	1926	1928	4	1.2
156	1931	1934	1937	1940	1942	1945	1948	1951	1953	1956	5	1.5
157	1959	1962	1965	1967	1970	1973	1976	1978	1981	1984	6	1.8
158	1987	1989	1992	1995	1998	2000	2003	2006	2009	2011	7	2.1
159	2014	2017	2019	2022	2025	2028	2030	2033	2036	2038	8	2.4
160	2041	2044	2047	2049	2052	2055	2057	2060	2063	2066	9	2.7
161	2068	2071	2074	2076	2079	2082	2084	2087	2090	2092		
162	2095	2098	2101	2103	2106	2109	2111	2114	2117	2119		
163	2122	2125	2127	2130	2133	2135	2138	2140	2143	2146		
164	2148	2151	2154	2156	2159	2162	2164	2167	2170	2172		
165	2175	2177	2180	2183	2185	2188	2191	2193	2196	2198		
166	2201	2204	2206	2209	2212	2214	2217	2219	2222	2225		
167	2227	2230	2232	2235	2238	2240	2243	2245	2248	2251		
168	2253	2256	2258	2261	2263	2266	2269	2271	2274	2276		
169	2279	2281	2284	2287	2289	2292	2294	2297	2299	2302		
170	2304	2307	2310	2312	2315	2317	2320	2322	2325	2327		
171	2330	2333	2335	2338	2340	2343	2345	2348	2350	2353		
172	2355	2358	2360	2363	2365	2368	2370	2373	2375	2378		
173	2380	2383	2385	2388	2390	2393	2395	2398	2400	2403		
174	2405	2408	2410	2413	2415	2418	2420	2423	2425	2428		
175	2430	2433	2435	2438	2440	2443	2445	2448	2450	2453		
176	2455	2458	2460	2463	2465	2467	2470	2472	2475	2477		
177	2480	2482	2485	2487	2490	2492	2494	2497	2499	2502		
178	2504	2507	2509	2512	2514	2516	2519	2521	2524	2526		
179	2529	2531	2533	2536	2538	2541	2543	2545	2548	2550		
180	2553	2555	2558	2560	2562	2565	2567	2570	2572	2574		
181	2577	2579	2582	2584	2586	2589	2591	2594	2596	2598		
182	2601	2603	2605	2608	2610	2613	2615	2617	2620	2622		
183	2625	2627	2629	2632	2634	2636	2639	2641	2643	2646		
184	2648	2651	2653	2655	2658	2660	2662	2665	2667	2669		

TABLE I. LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9	Prop. Parts		
20	3010	3032	3054	3075	3096	3118	3139	3160	3181	3201	Extra digit	Difference	
21	3222	3243	3263	3284	3304	3324	3345	3365	3385	3404			
22	3424	3444	3464	3483	3502	3522	3541	3560	3579	3598			
23	3617	3636	3655	3674	3692	3711	3729	3747	3766	3784			
24	3802	3820	3838	3856	3874	3892	3909	3927	3945	3962			
25	3979	3997	4014	4031	4048	4065	4082	4099	4116	4133			
26	4150	4166	4183	4200	4216	4232	4249	4265	4281	4298			
27	4314	4330	4346	4362	4378	4393	4409	4425	4440	4456		22	21
28	4472	4487	4502	4518	4533	4548	4564	4579	4594	4609		2.2	2.1
29	4624	4639	4654	4669	4683	4698	4713	4728	4742	4757		4.4	4.2
30	4771	4786	4800	4814	4829	4843	4857	4871	4886	4900	1	6.6	6.3
31	4914	4928	4942	4955	4969	4983	4997	5011	5024	5038	2	8.8	8.4
32	5051	5065	5079	5092	5105	5119	5132	5145	5159	5172	3	11.0	10.5
33	5185	5198	5211	5224	5237	5250	5263	5276	5289	5302	4	13.2	12.6
34	5315	5328	5340	5353	5366	5378	5391	5403	5416	5428	5	15.4	14.7
35	5441	5453	5465	5478	5490	5502	5514	5527	5539	5551	6	17.6	16.8
36	5563	5575	5587	5599	5611	5623	5635	5647	5658	5670	7	19.8	18.9
37	5682	5694	5705	5717	5729	5740	5752	5763	5775	5786	8	20	19
38	5798	5809	5821	5832	5843	5855	5866	5877	5888	5900	9		
39	5911	5922	5933	5944	5955	5966	5977	5988	5999	6010	1	2.0	1.9
40	6021	6031	6042	6053	6064	6075	6085	6096	6107	6117	2	4.0	3.8
41	6128	6138	6149	6160	6170	6180	6191	6201	6212	6222	3	6.0	5.7
42	6232	6243	6253	6263	6274	6284	6294	6304	6314	6325	4	8.0	7.6
43	6335	6345	6355	6365	6375	6385	6395	6405	6415	6425	5	10.0	9.5
44	6435	6444	6454	6464	6474	6484	6493	6503	6513	6522	6	12.0	11.4
45	6532	6542	6551	6561	6571	6580	6590	6599	6609	6618	7	14.0	13.3
46	6628	6637	6646	6656	6665	6675	6684	6693	6702	6712	8	16.0	15.2
47	6721	6730	6739	6749	6758	6767	6776	6785	6794	6803	9	18.0	17.1
48	6812	6821	6830	6839	6848	6857	6866	6875	6884	6893	1	18	17
49	6902	6911	6920	6928	6937	6946	6955	6964	6972	6981	2		
50	6990	6998	7007	7016	7024	7033	7042	7050	7059	7067	3	1.8	1.7
51	7076	7084	7093	7101	7110	7118	7126	7135	7143	7152	4	3.6	3.4
52	7160	7168	7177	7185	7193	7202	7210	7218	7226	7235	5	5.4	5.1
53	7243	7243	7259	7267	7275	7284	7292	7300	7308	7316	6	7.2	6.8
54	7324	7332	7340	7348	7356	7364	7372	7380	7388	7396	7	9.0	8.5
55	7404	7412	7419	7427	7435	7443	7451	7459	7466	7474	8	10.8	10.2
56	7482	7490	7497	7505	7513	7520	7528	7536	7543	7551	9	12.6	11.9
57	7559	7566	7574	7582	7589	7597	7604	7612	7619	7627	1	14.4	13.6
58	7634	7642	7649	7657	7664	7672	7679	7686	7694	7701	2	16.2	15.3
59	7709	7716	7723	7731	7738	7745	7752	7760	7767	7774	3	16	15
60	7782	7789	7796	7803	7810	7818	7825	7832	7839	7846	4		
61	7853	7860	7868	7875	7882	7889	7896	7903	7910	7917	5	1.6	1.5
62	7924	7931	7938	7945	7952	7959	7966	7973	7980	7987	6	3.2	3.0
63	7993	8000	8007	8014	8021	8028	8035	8041	8048	8055	7	4.8	4.5
64	8062	8069	8075	8082	8089	8096	8102	8109	8116	8122	8	6.4	6.0
65	8129	8136	8142	8149	8156	8162	8169	8176	8182	8189	9	8.0	7.5
66	8195	8202	8209	8215	8222	8228	8235	8241	8248	8254	1	9.6	9.0
67	8261	8267	8274	8280	8287	8293	8299	8306	8312	8319	2	11.2	10.5
68	8325	8331	8338	8344	8351	8357	8363	8370	8376	8382	3	12.8	12.0
69	8388	8395	8401	8407	8414	8420	8426	8432	8439	8445	4	14.4	13.5
70	8451	8457	8463	8470	8476	8482	8488	8494	8500	8506	5	14	13
											6		
											7	1.4	1.3
											8	2.8	2.6
											9	4.2	3.9
											1	5.6	5.2
											2	7.0	6.5
											3	8.4	7.8
											4	9.8	9.1
											5	11.2	10.4
											6	12.6	11.7
											1	12	11
											2		
											3	1.2	1.1
											4	2.4	2.2
											5	3.6	3.3
											6	4.8	4.4
											7	6.0	5.5
											8	7.2	6.6
											9	8.4	7.7
											1	9.6	8.8
											2	10.8	9.9

TABLE I. LOGARITHMS OF NUMBERS

No.	0	1	2	3	4	5	6	7	8	9	Prop. Parts	
											Ex. dig.	Difference
70	8451	8457	8463	8470	8476	8482	8488	8494	8500	8506		
71	8513	8519	8525	8531	8537	8543	8549	8555	8561	8567		
72	8573	8579	8585	8591	8597	8603	8609	8615	8621	8627		
73	8633	8639	8645	8651	8657	8663	8669	8675	8681	8686		
74	8692	8698	8704	8710	8716	8722	8727	8733	8739	8745		
75	8751	8756	8762	8768	8774	8779	8785	8791	8797	8802		
76	8808	8814	8820	8825	8831	8837	8842	8848	8854	8859		
77	8865	8871	8876	8882	8887	8893	8899	8904	8910	8915		
78	8921	8927	8932	8938	8943	8949	8954	8960	8965	8971		
79	8976	8982	8987	8993	8998	9004	9009	9015	9020	9025		
80	9031	9036	9042	9047	9053	9058	9063	9069	9074	9079		
81	9085	9090	9096	9101	9106	9112	9117	9122	9128	9133		
82	9138	9143	9149	9154	9159	9165	9170	9175	9180	9186		
83	9191	9196	9201	9206	9212	9217	9222	9227	9232	9238		
84	9243	9248	9253	9258	9263	9269	9274	9279	9284	9289		
85	9294	9299	9304	9309	9315	9320	9325	9330	9335	9340		
86	9345	9350	9355	9360	9365	9370	9375	9380	9385	9390		
87	9395	9400	9405	9410	9415	9420	9425	9430	9435	9440		
88	9445	9450	9455	9460	9465	9469	9474	9479	9484	9489		
89	9494	9499	9504	9509	9513	9518	9523	9528	9533	9538		
90	9542	9547	9552	9557	9562	9566	9571	9576	9581	9586		
91	9590	9595	9600	9605	9609	9614	9619	9624	9628	9633		
92	9638	9643	9647	9652	9657	9661	9666	9671	9675	9680		
93	9685	9689	9694	9699	9703	9708	9713	9717	9722	9727		
94	9731	9736	9741	9745	9750	9754	9759	9763	9768	9773		
95	9777	9782	9786	9791	9795	9800	9805	9809	9814	9818		
96	9823	9827	9832	9836	9841	9845	9850	9854	9859	9863		
97	9868	9872	9877	9881	9886	9890	9894	9899	9903	9908		
98	9912	9917	9921	9926	9930	9934	9939	9943	9948	9952		
99	9956	9961	9965	9969	9974	9978	9983	9987	9991	9996		
100	0000	0004	0009	0013	0017	0022	0026	0030	0035	0039		
No.	0	1	2	3	4	5	6	7	8	9		

RULES FOR FINDING THE LOGARITHMS OF THE TRIGONOMETRIC FUNCTIONS OF ANGLES NEAR 0° AND 90°

The derivation of the following rules will be found on page 182, Granville's *Plane Trigonometry*.

If the angle is given in degrees, minutes, and seconds, it should first be reduced to degrees and the decimal part of a degree. For this purpose use the conversion table on page 17.

*Rule I. To find the Logarithms of the Functions of an Angle near 0° .**

$$\log \sin x^\circ = \bar{2}.2419 + \log x.$$

$$\log \tan x^\circ = \bar{2}.2419 + \log x.$$

$$\log \cot x^\circ = 1.7581 - \log x.$$

$\log \cos x^\circ$ is found from the tables in the usual way.

Rule II. To find the Logarithms of the Functions of an Angle near 90° .†

$$\log \cos x^\circ = \bar{2}.2419 + \log (90 - x).$$

$$\log \cot x^\circ = \bar{2}.2419 + \log (90 - x).$$

$$\log \tan x^\circ = 1.7581 - \log (90 - x).$$

$\log \sin x^\circ$ is found from the tables in the usual way.

These rules will give results accurate to four decimal places for all angles between 0° and 1.1° and between 88.9° and 90° .

* Example 1, page 182, Granville's *Plane Trigonometry*, illustrates the application of this rule.

† Example 2, page 183; Granville's *Plane Trigonometry*, illustrates the application of this rule.

TABLE II

FOUR-PLACE LOGARITHMS OF TRIGONOMETRIC FUNCTIONS, THE ANGLE BEING EXPRESSED IN DEGREES AND MINUTES

This table gives the common logarithms (base 10) of the sines, cosines, tangents, and cotangents of all angles from 0° to 5° and from 85° to 90° for each minute; and from 5° to 85° at intervals of 10 minutes, all calculated to four places of decimals. In order to avoid the printing of negative characteristics, the number 10 has been added to every logarithm in the first, second, and fourth columns (those having $\log \sin$, $\log \tan$, and $\log \cos$ at the top). Hence in writing down any logarithm taken from these three columns -10 should be written after it. Logarithms taken from the third column (having $\log \cot$ at the top) should be used as printed.

A logarithm found from this table by interpolation may be in error by one unit in the last decimal place, except for angles between 0° and $18'$ or between $89^\circ 42'$ and 90° , when the error may be larger. In the latter cases the table refers the student to the formulas on page 6 for more accurate results.

TABLE II. LOGARITHMIC SINES

0°						
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos
0° 0'	—	—	—	—	—	10.0000
0° 1'	6.4637	Ordinary interpolation here will in general give inaccurate results. Instead use formulas on p. 6.	6.4637	Ordinary interpolation here will in general give inaccurate results. Instead use formulas on p. 6.	3.5363	10.0000
0° 2'	6.7648		6.7648		3.2352	10.0000
0° 3'	6.9408		6.9408		3.0592	10.0000
0° 4'	7.0658		7.0658		2.9342	10.0000
0° 5'	7.1627		7.1627		2.8373	10.0000
0° 6'	7.2419		7.2419		2.7581	10.0000
0° 7'	7.3088		7.3088		2.6912	10.0000
0° 8'	7.3668		7.3668		2.6332	10.0000
0° 9'	7.4180		7.4180		2.5820	10.0000
0° 10'	7.4637		7.4637		2.5363	10.0000
0° 11'	7.5051	235	7.5051	223	2.4949	10.0000
0° 12'	7.5429		7.5429		2.4571	10.0000
0° 13'	7.5777		7.5777		2.4223	10.0000
0° 14'	7.6099		7.6099		2.3901	10.0000
0° 15'	7.6398		7.6398		2.3602	10.0000
0° 16'	7.6678		7.6678		2.3322	10.0000
0° 17'	7.6942		7.6942		2.3058	10.0000
0° 18'	7.7190		7.7190		2.2810	10.0000
0° 19'	7.7425		7.7425		2.2575	10.0000
0° 20'	7.7648		7.7648		2.2352	10.0000
0° 21'	7.7859	211	7.7860	212	2.2140	10.0000
0° 22'	7.8061	202	7.8062	202	2.1938	10.0000
0° 23'	7.8255	194	7.8255	193	2.1745	10.0000
0° 24'	7.8439	184	7.8439	184	2.1561	10.0000
0° 25'	7.8617	178	7.8617	178	2.1383	10.0000
0° 26'	7.8787	170	7.8787	170	2.1213	10.0000
0° 27'	7.8951	164	7.8951	164	2.1049	10.0000
0° 28'	7.9109	158	7.9109	158	2.0891	10.0000
0° 29'	7.9261	152	7.9261	152	2.0739	10.0000
0° 30'	7.9408	147	7.9409	148	2.0591	10.0000
0° 31'	7.9551	143	7.9551	142	2.0449	10.0000
0° 32'	7.9689	138	7.9689	138	2.0311	10.0000
0° 33'	7.9822	133	7.9823	134	2.0177	10.0000
0° 34'	7.9952	130	7.9952	129	2.0048	10.0000
0° 35'	8.0078	126	8.0078	126	1.9922	10.0000
0° 36'	8.0200	122	8.0200	122	1.9800	10.0000
0° 37'	8.0319	119	8.0319	119	1.9681	10.0000
0° 38'	8.0435	116	8.0435	116	1.9565	10.0000
0° 39'	8.0548	113	8.0548	113	1.9452	10.0000
0° 40'	8.0658	110	8.0658	110	1.9342	10.0000
0° 41'	8.0765	107	8.0765	107	1.9235	10.0000
0° 42'	8.0870	105	8.0870	105	1.9130	10.0000
0° 43'	8.0972	102	8.0972	102	1.9028	10.0000
0° 44'	8.1072	100	8.1072	100	1.8928	10.0000
0° 45'	8.1169	97	8.1170	98	1.8830	10.0000
0° 46'	8.1265	96	8.1265	95	1.8735	10.0000
0° 47'	8.1358	93	8.1359	94	1.8641	10.0000
0° 48'	8.1450	92	8.1450	91	1.8550	10.0000
0° 49'	8.1539	89	8.1540	90	1.8460	10.0000
0° 50'	8.1627	88	8.1627	87	1.8373	10.0000
0° 51'	8.1713	86	8.1713	86	1.8287	10.0000
0° 52'	8.1797	84	8.1798	85	1.8202	10.0000
0° 53'	8.1880	83	8.1880	82	1.8120	9.9999
0° 54'	8.1961	81	8.1962	82	1.8038	9.9999
0° 55'	8.2041	80	8.2041	79	1.7959	9.9999
0° 56'	8.2119	78	8.2120	79	1.7880	9.9999
0° 57'	8.2196	77	8.2196	76	1.7804	9.9999
0° 58'	8.2271	75	8.2272	76	1.7728	9.9999
0° 59'	8.2346	75	8.2346	74	1.7654	9.9999
0° 60'	8.2419	73	8.2419	73	1.7581	9.9999
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin
89°						
						Angle

1°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	
1° 0'	8.2419		8.2419		1.7581	9.9999	88° 60'
1° 1'	8.2490	71	8.2491	72	1.7509	9.9999	88° 59'
1° 2'	8.2561	71	8.2562	71	1.7438	9.9999	88° 58'
1° 3'	8.2630	69	8.2631	69	1.7369	9.9999	88° 57'
1° 4'	8.2699	69	8.2700	69	1.7300	9.9999	88° 56'
1° 5'	8.2766	67	8.2767	67	1.7233	9.9999	88° 55'
1° 6'	8.2832	66	8.2833	66	1.7167	9.9999	88° 54'
1° 7'	8.2898	66	8.2899	66	1.7101	9.9999	88° 53'
1° 8'	8.2962	64	8.2963	64	1.7037	9.9999	88° 52'
1° 9'	8.3025	63	8.3026	63	1.6974	9.9999	88° 51'
1° 10'	8.3088	63	8.3089	63	1.6911	9.9999	88° 50'
1° 11'	8.3150	62	8.3150	61	1.6850	9.9999	88° 49'
1° 12'	8.3210	60	8.3211	61	1.6789	9.9999	88° 48'
1° 13'	8.3270	60	8.3271	60	1.6729	9.9999	88° 47'
1° 14'	8.3329	59	8.3330	59	1.6670	9.9999	88° 46'
1° 15'	8.3388	59	8.3389	59	1.6611	9.9999	88° 45'
1° 16'	8.3445	57	8.3446	57	1.6554	9.9999	88° 44'
1° 17'	8.3502	57	8.3503	56	1.6497	9.9999	88° 43'
1° 18'	8.3558	56	8.3559	56	1.6441	9.9999	88° 42'
1° 19'	8.3613	55	8.3614	55	1.6386	9.9999	88° 41'
1° 20'	8.3668	55	8.3669	55	1.6331	9.9999	88° 40'
1° 21'	8.3722	54	8.3723	54	1.6277	9.9999	88° 39'
1° 22'	8.3775	53	8.3776	53	1.6224	9.9999	88° 38'
1° 23'	8.3828	53	8.3829	53	1.6171	9.9999	88° 37'
1° 24'	8.3880	52	8.3881	52	1.6119	9.9999	88° 36'
1° 25'	8.3931	51	8.3932	51	1.6068	9.9999	88° 35'
1° 26'	8.3982	51	8.3983	51	1.6017	9.9999	88° 34'
1° 27'	8.4032	50	8.4033	50	1.5967	9.9999	88° 33'
1° 28'	8.4082	50	8.4083	50	1.5917	9.9999	88° 32'
1° 29'	8.4131	49	8.4132	49	1.5868	9.9999	88° 31'
1° 30'	8.4179	49	8.4181	49	1.5819	9.9999	88° 30'
1° 31'	8.4227	48	8.4229	48	1.5771	9.9998	88° 29'
1° 32'	8.4275	48	8.4276	47	1.5724	9.9998	88° 28'
1° 33'	8.4322	47	8.4323	47	1.5677	9.9998	88° 27'
1° 34'	8.4368	46	8.4370	46	1.5630	9.9998	88° 26'
1° 35'	8.4414	45	8.4416	46	1.5584	9.9998	88° 25'
1° 36'	8.4459	45	8.4461	45	1.5539	9.9998	88° 24'
1° 37'	8.4504	45	8.4506	45	1.5494	9.9998	88° 23'
1° 38'	8.4549	44	8.4551	45	1.5449	9.9998	88° 22'
1° 39'	8.4593	44	8.4595	44	1.5405	9.9998	88° 21'
1° 40'	8.4637	44	8.4638	43	1.5362	9.9998	88° 20'
1° 41'	8.4680	43	8.4682	44	1.5318	9.9998	88° 19'
1° 42'	8.4723	43	8.4725	43	1.5275	9.9998	88° 18'
1° 43'	8.4765	42	8.4767	42	1.5233	9.9998	88° 17'
1° 44'	8.4807	42	8.4809	42	1.5191	9.9998	88° 16'
1° 45'	8.4848	41	8.4851	42	1.5149	9.9998	88° 15'
1° 46'	8.4890	42	8.4892	41	1.5108	9.9998	88° 14'
1° 47'	8.4930	40	8.4933	41	1.5067	9.9998	88° 13'
1° 48'	8.4971	41	8.4973	40	1.5027	9.9998	88° 12'
1° 49'	8.5011	40	8.5013	40	1.4987	9.9998	88° 11'
1° 50'	8.5050	39	8.5053	40	1.4947	9.9998	88° 10'
1° 51'	8.5090	40	8.5092	39	1.4908	9.9998	88° 9'
1° 52'	8.5129	39	8.5131	39	1.4869	9.9998	88° 8'
1° 53'	8.5167	38	8.5170	39	1.4830	9.9998	88° 7'
1° 54'	8.5206	39	8.5208	38	1.4792	9.9998	88° 6'
1° 55'	8.5243	37	8.5246	38	1.4754	9.9998	88° 5'
1° 56'	8.5281	38	8.5283	37	1.4717	9.9998	88° 4'
1° 57'	8.5318	37	8.5321	38	1.4679	9.9997	88° 3'
1° 58'	8.5355	37	8.5358	37	1.4642	9.9997	88° 2'
1° 59'	8.5392	37	8.5394	36	1.4606	9.9997	88° 1'
1° 60'	8.5428	36	8.5431	37	1.4569	9.9997	88° 0'
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	Angle

88°

TABLE II. LOGARITHMIC SINES

2°						
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos
2° 0'	8.5428		8.5431		1.4569	9.9997
2° 1'	8.5464	36	8.5467	36	1.4533	9.9997
2° 2'	8.5500	36	8.5503	36	1.4497	9.9997
2° 3'	8.5535	35	8.5538	35	1.4462	9.9997
2° 4'	8.5571	36	8.5573	35	1.4427	9.9997
2° 5'	8.5605	34	8.5608	35	1.4392	9.9997
2° 6'	8.5640	35	8.5643	35	1.4357	9.9997
2° 7'	8.5674	34	8.5677	34	1.4323	9.9997
2° 8'	8.5708	34	8.5711	34	1.4289	9.9997
2° 9'	8.5742	34	8.5745	34	1.4255	9.9997
2° 10'	8.5776	34	8.5779	34	1.4221	9.9997
2° 11'	8.5809	33	8.5812	33	1.4188	9.9997
2° 12'	8.5842	33	8.5845	33	1.4155	9.9997
2° 13'	8.5875	33	8.5878	33	1.4122	9.9997
2° 14'	8.5907	32	8.5911	33	1.4089	9.9997
2° 15'	8.5939	32	8.5943	32	1.4057	9.9997
2° 16'	8.5972	33	8.5975	32	1.4025	9.9997
2° 17'	8.6003	31	8.6007	32	1.3993	9.9997
2° 18'	8.6035	32	8.6038	31	1.3962	9.9997
2° 19'	8.6066	31	8.6070	32	1.3930	9.9996
2° 20'	8.6097	31	8.6101	31	1.3899	9.9996
2° 21'	8.6128	31	8.6132	31	1.3868	9.9996
2° 22'	8.6159	30	8.6163	31	1.3837	9.9996
2° 23'	8.6189	30	8.6193	30	1.3807	9.9996
2° 24'	8.6220	31	8.6223	30	1.3777	9.9996
2° 25'	8.6250	30	8.6254	31	1.3746	9.9996
2° 26'	8.6279	29	8.6283	29	1.3717	9.9996
2° 27'	8.6309	30	8.6313	30	1.3687	9.9996
2° 28'	8.6339	30	8.6343	30	1.3657	9.9996
2° 29'	8.6368	29	8.6372	29	1.3628	9.9996
2° 30'	8.6397	29	8.6401	29	1.3599	9.9996
2° 31'	8.6426	28	8.6430	29	1.3570	9.9996
2° 32'	8.6454	29	8.6459	28	1.3541	9.9996
2° 33'	8.6483	28	8.6487	28	1.3513	9.9996
2° 34'	8.6511	28	8.6515	29	1.3485	9.9996
2° 35'	8.6539	28	8.6544	27	1.3456	9.9996
2° 36'	8.6567	28	8.6571	28	1.3429	9.9996
2° 37'	8.6595	27	8.6599	28	1.3401	9.9995
2° 38'	8.6622	28	8.6627	27	1.3373	9.9995
2° 39'	8.6650	27	8.6654	28	1.3346	9.9995
2° 40'	8.6677	27	8.6682	27	1.3318	9.9995
2° 41'	8.6704	27	8.6709	27	1.3291	9.9995
2° 42'	8.6731	26	8.6736	26	1.3264	9.9995
2° 43'	8.6758	26	8.6762	27	1.3238	9.9995
2° 44'	8.6784	26	8.6789	26	1.3211	9.9995
2° 45'	8.6810	27	8.6815	26	1.3185	9.9995
2° 46'	8.6837	26	8.6842	27	1.3158	9.9995
2° 47'	8.6863	26	8.6868	26	1.3132	9.9995
2° 48'	8.6889	25	8.6894	26	1.3106	9.99

3°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	
3° 0'	8.7188		8.7194		1.2806	9.9994	86° 60'
3° 1'	8.7212	24	8.7218	24	1.2782	9.9994	86° 59'
3° 2'	8.7236	24	8.7242	24	1.2758	9.9994	86° 58'
3° 3'	8.7260	24	8.7266	24	1.2734	9.9994	86° 57'
3° 4'	8.7283	23	8.7290	24	1.2710	9.9994	86° 56'
3° 5'	8.7307	24	8.7313	23	1.2687	9.9994	86° 55'
3° 6'	8.7330	23	8.7337	24	1.2663	9.9994	86° 54'
3° 7'	8.7354	24	8.7360	23	1.2640	9.9994	86° 53'
3° 8'	8.7377	23	8.7383	23	1.2617	9.9994	86° 52'
3° 9'	8.7400	23	8.7406	23	1.2594	9.9993	86° 51'
3° 10'	8.7423	22	8.7429	23	1.2571	9.9993	86° 50'
3° 11'	8.7445	23	8.7452	23	1.2548	9.9993	86° 49'
3° 12'	8.7468	23	8.7475	23	1.2525	9.9993	86° 48'
3° 13'	8.7491	22	8.7497	22	1.2503	9.9993	86° 47'
3° 14'	8.7513	22	8.7520	22	1.2480	9.9993	86° 46'
3° 15'	8.7535	22	8.7542	22	1.2458	9.9993	86° 45'
3° 16'	8.7557	23	8.7565	23	1.2435	9.9993	86° 44'
3° 17'	8.7580	22	8.7587	22	1.2413	9.9993	86° 43'
3° 18'	8.7602	21	8.7609	22	1.2391	9.9993	86° 42'
3° 19'	8.7623	21	8.7631	21	1.2369	9.9993	86° 41'
3° 20'	8.7645	22	8.7652	22	1.2348	9.9993	86° 40'
3° 21'	8.7667	21	8.7674	22	1.2326	9.9993	86° 39'
3° 22'	8.7688	22	8.7696	21	1.2304	9.9993	86° 38'
3° 23'	8.7710	21	8.7717	22	1.2283	9.9992	86° 37'
3° 24'	8.7731	21	8.7739	21	1.2261	9.9992	86° 36'
3° 25'	8.7752	21	8.7760	21	1.2240	9.9992	86° 35'
3° 26'	8.7773	21	8.7781	21	1.2219	9.9992	86° 34'
3° 27'	8.7794	21	8.7802	21	1.2198	9.9992	86° 33'
3° 28'	8.7815	21	8.7823	21	1.2177	9.9992	86° 32'
3° 29'	8.7836	21	8.7844	21	1.2156	9.9992	86° 31'
3° 30'	8.7857	20	8.7865	21	1.2135	9.9992	86° 30'
3° 31'	8.7877	21	8.7886	20	1.2114	9.9992	86° 29'
3° 32'	8.7898	20	8.7906	21	1.2094	9.9992	86° 28'
3° 33'	8.7918	21	8.7927	20	1.2073	9.9992	86° 27'
3° 34'	8.7939	20	8.7947	20	1.2053	9.9992	86° 26'
3° 35'	8.7959	20	8.7967	21	1.2033	9.9992	86° 25'
3° 36'	8.7979	20	8.7988	21	1.2012	9.9991	86° 24'
3° 37'	8.7999	20	8.8008	20	1.1992	9.9991	86° 23'
3° 38'	8.8019	20	8.8028	20	1.1972	9.9991	86° 22'
3° 39'	8.8039	20	8.8048	20	1.1952	9.9991	86° 21'
3° 40'	8.8059	19	8.8067	20	1.1933	9.9991	86° 20'
3° 41'	8.8078	20	8.8087	19	1.1913	9.9991	86° 19'
3° 42'	8.8098	19	8.8107	20	1.1893	9.9991	86° 18'
3° 43'	8.8117	19	8.8126	19	1.1874	9.9991	86° 17'
3° 44'	8.8137	20	8.8146	19	1.1854	9.9991	86° 16'
3° 45'	8.8156	19	8.8165	19	1.1835	9.9991	86° 15'
3° 46'	8.8175	19	8.8185	20	1.1815	9.9991	86° 14'
3° 47'	8.8194	19	8.8204	19	1.1796	9.9991	86° 13'
3° 48'	8.8213	19	8.8223	19	1.1777	9.9990	86° 12'
3° 49'	8.8232	19	8.8242	19	1.1758	9.9990	86° 11'
3° 50'	8.8251	19	8.8261	19	1.1739	9.9990	86° 10'
3° 51'	8.8270	19	8.8280	19	1.1720	9.9990	86° 9'
3° 52'	8.8289	18	8.8299	19	1.1701	9.9990	86° 8'
3° 53'	8.8307	19	8.8317	18	1.1683	9.9990	86° 7'
3° 54'	8.8326	19	8.8336	19	1.1664	9.9990	86° 6'
3° 55'	8.8345	19	8.8355	19	1.1645	9.9990	86° 5'
3° 56'	8.8363	18	8.8373	19	1.1627	9.9990	86° 4'
3° 57'	8.8381	18	8.8392	18	1.1608	9.9990	86° 3'
3° 58'	8.8400	19	8.8410	18	1.1590	9.9990	86° 2'
3° 59'	8.8418	18	8.8428	18	1.1572	9.9990	86° 1'
3° 60'	8.8436	18	8.8446	18	1.1554	9.9989	86° 0'
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	Angle

86°

TABLE II. LOGARITHMIC SINES

4°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	
4° 0'	8.8436		8.8446		1.1554	9.9989	85° 60'
4° 1'	8.8454	18	8.8465	19	1.1535	9.9989	85° 59'
4° 2'	8.8472	18	8.8483	18	1.1517	9.9989	85° 58'
4° 3'	8.8490	18	8.8501	18	1.1499	9.9989	85° 57'
4° 4'	8.8508	18	8.8518	17	1.1482	9.9989	85° 56'
4° 5'	8.8525	17	8.8536	18	1.1464	9.9989	85° 55'
4° 6'	8.8543	18	8.8554	18	1.1446	9.9989	85° 54'
4° 7'	8.8560	17	8.8572	18	1.1428	9.9989	85° 53'
4° 8'	8.8578	18	8.8589	17	1.1411	9.9989	85° 52'
4° 9'	8.8595	17	8.8607	18	1.1393	9.9989	85° 51'
4° 10'	8.8613	18	8.8624	17	1.1376	9.9989	85° 50'
4° 11'	8.8630	17	8.8642	18	1.1358	9.9988	85° 49'
4° 12'	8.8647	17	8.8659	17	1.1341	9.9988	85° 48'
4° 13'	8.8665	18	8.8676	18	1.1324	9.9988	85° 47'
4° 14'	8.8682	17	8.8694	17	1.1306	9.9988	85° 46'
4° 15'	8.8699	17	8.8711	17	1.1289	9.9988	85° 45'
4° 16'	8.8716	17	8.8728	17	1.1272	9.9988	85° 44'
4° 17'	8.8733	17	8.8745	17	1.1255	9.9988	85° 43'
4° 18'	8.8749	16	8.8762	17	1.1238	9.9988	85° 42'
4° 19'	8.8766	17	8.8778	16	1.1222	9.9988	85° 41'
4° 20'	8.8783	16	8.8795	17	1.1205	9.9988	85° 40'
4° 21'	8.8799	17	8.8812	17	1.1188	9.9987	85° 39'
4° 22'	8.8816	17	8.8829	17	1.1171	9.9987	85° 38'
4° 23'	8.8833	17	8.8845	16	1.1155	9.9987	85° 37'
4° 24'	8.8849	16	8.8862	17	1.1138	9.9987	85° 36'
4° 25'	8.8865	16	8.8878	16	1.1122	9.9987	85° 35'
4° 26'	8.8882	17	8.8895	17	1.1105	9.9987	85° 34'
4° 27'	8.8898	16	8.8911	16	1.1089	9.9987	85° 33'
4° 28'	8.8914	16	8.8927	16	1.1073	9.9987	85° 32'
4° 29'	8.8930	16	8.8944	17	1.1056	9.9987	85° 31'
4° 30'	8.8946	16	8.8960	16	1.1040	9.9987	85° 30'
4° 31'	8.8962	16	8.8976	16	1.1024	9.9986	85° 29'
4° 32'	8.8978	16	8.8992	16	1.1008	9.9986	85° 28'
4° 33'	8.8994	16	8.9008	16	1.0992	9.9986	85° 27'
4° 34'	8.9010	16	8.9024	16	1.0976	9.9986	85° 26'
4° 35'	8.9026	16	8.9040	16	1.0960	9.9986	85° 25'
4° 36'	8.9042	15	8.9056	15	1.0944	9.9986	85° 24'
4° 37'	8.9057	16	8.9071	16	1.0929	9.9986	85° 23'
4° 38'	8.9073	16	8.9087	16	1.0913	9.9986	85° 22'
4° 39'	8.9089	15	8.9103	15	1.0897	9.9986	85° 21'
4° 40'	8.9104	15	8.9118	16	1.0882	9.9986	85° 20'
4° 41'	8.9119	16	8.9134	16	1.0866	9.9985	85° 19'
4° 42'	8.9135	15	8.9150	15	1.0850	9.9985	85° 18'
4° 43'	8.9150	15	8.9165	15	1.0835	9.9985	85° 17'
4° 44'	8.9166	16	8.9180	16	1.0820	9.9985	85° 16'
4° 45'	8.9181	15	8.9196	16	1.0804	9.9985	85° 15'
4° 46'	8.9196	15	8.9211	15	1.0789	9.9985	85° 14'
4° 47'	8.9211	15	8.9226	15	1.0774	9.9985	85° 13'
4° 48'	8.9226	15	8.9241	15	1.0759	9.9985	85° 12'
4° 49'	8.9241	15	8.9256	16	1.0744	9.9985	85° 11'
4° 50'	8.9256	15	8.9272	15	1.0728	9.9985	85° 10'
4° 51'	8.9271	15	8.9287	15	1.0713	9.9984	85° 9'
4° 52'	8.9286	15	8.9302	15	1.0698	9.9984	85° 8'
4° 53'	8.9301	14	8.9316	14	1.0684	9.9984	85° 7'
4° 54'	8.9315	15	8.9331	15	1.0669	9.9984	85° 6'
4° 55'	8.9330	15	8.9346	15	1.0654	9.9984	85° 5'
4° 56'	8.9345	14	8.9361	15	1.0639	9.9984	85° 4'
4° 57'	8.9359	15	8.9376	14	1.0624	9.9984	85° 3'
4° 58'	8.9374	15	8.9390	15	1.0610	9.9984	85° 2'
4° 59'	8.9388	15	8.9405	15	1.0595	9.9984	85° 1'
4° 60'	8.9403	15	8.9420	15	1.0580	9.9983	85° 0'
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	Angle

85°

5°-15°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	diff. 1'
5° 0'	8.9403		8.9420		1.0580	9.9983	
5° 10'	8.9545	14.2	8.9563	14.3	1.0437	9.9982	.1
5° 20'	8.9682	13.7	8.9701	13.8	1.0299	9.9981	.1
5° 30'	8.9816	13.4	8.9836	13.5	1.0164	9.9980	.1
5° 40'	8.9945	12.9	8.9966	13.0	1.0034	9.9979	.1
5° 50'	9.0070	12.5	9.0093	12.7	0.9907	9.9977	.2
6° 0'	9.0192	12.2	9.0216	12.3	0.9784	9.9976	.1
6° 10'	9.0311	11.9	9.0336	12.0	0.9664	9.9975	.1
6° 20'	9.0426	11.5	9.0453	11.7	0.9547	9.9973	.2
6° 30'	9.0539	11.3	9.0567	11.4	0.9433	9.9972	.1
6° 40'	9.0648	10.9	9.0678	11.1	0.9322	9.9971	.1
6° 50'	9.0755	10.7	9.0786	10.8	0.9214	9.9969	.2
7° 0'	9.0859	10.4	9.0891	10.5	0.9109	9.9968	.1
7° 10'	9.0961	10.2	9.0995	10.4	0.9005	9.9966	.2
7° 20'	9.1060	9.9	9.1096	10.1	0.8904	9.9964	.2
7° 30'	9.1157	9.7	9.1194	9.8	0.8806	9.9963	.1
7° 40'	9.1252	9.5	9.1291	9.7	0.8709	9.9961	.2
7° 50'	9.1345	9.3	9.1385	9.4	0.8615	9.9959	.2
8° 0'	9.1436	9.1	9.1478	9.3	0.8522	9.9958	.1
8° 10'	9.1525	8.9	9.1569	9.1	0.8431	9.9956	.2
8° 20'	9.1612	8.7	9.1658	8.9	0.8342	9.9954	.2
8° 30'	9.1697	8.5	9.1745	8.7	0.8255	9.9952	.2
8° 40'	9.1781	8.4	9.1831	8.6	0.8169	9.9950	.2
8° 50'	9.1863	8.2	9.1915	8.4	0.8085	9.9948	.2
9° 0'	9.1943	8.0	9.1997	8.2	0.8003	9.9946	.2
9° 10'	9.2022	7.9	9.2078	8.1	0.7922	9.9944	.2
9° 20'	9.2100	7.8	9.2158	8.0	0.7842	9.9942	.2
9° 30'	9.2176	7.6	9.2236	7.8	0.7764	9.9940	.2
9° 40'	9.2251	7.5	9.2313	7.7	0.7687	9.9938	.2
9° 50'	9.2324	7.3	9.2389	7.6	0.7611	9.9936	.2
10° 0'	9.2397	7.3	9.2463	7.4	0.7537	9.9934	.2
10° 10'	9.2468	7.1	9.2536	7.3	0.7464	9.9931	.3
10° 20'	9.2538	7.0	9.2609	7.3	0.7391	9.9929	.2
10° 30'	9.2606	6.8	9.2680	7.1	0.7320	9.9927	.2
10° 40'	9.2674	6.8	9.2750	7.0	0.7250	9.9924	.3
10° 50'	9.2740	6.6	9.2819	6.9	0.7181	9.9922	.2
11° 0'	9.2806	6.6	9.2887	6.8	0.7113	9.9919	.3
11° 10'	9.2870	6.4	9.2953	6.6	0.7047	9.9917	.2
11° 20'	9.2934	6.4	9.3020	6.7	0.6980	9.9914	.3
11° 30'	9.2997	6.3	9.3085	6.5	0.6915	9.9912	.2
11° 40'	9.3058	6.1	9.3149	6.4	0.6851	9.9909	.3
11° 50'	9.3119	6.1	9.3212	6.3	0.6788	9.9907	.2
12° 0'	9.3179	6.0	9.3275	6.3	0.6725	9.9904	.3
12° 10'	9.3238	5.9	9.3336	6.1	0.6664	9.9901	.3
12° 20'	9.3296	5.8	9.3397	6.1	0.6603	9.9899	.2
12° 30'	9.3353	5.7	9.3458	6.1	0.6542	9.9896	.3
12° 40'	9.3410	5.7	9.3517	5.9	0.6483	9.9893	.3
12° 50'	9.3466	5.6	9.3576	5.9	0.6424	9.9890	.3
13° 0'	9.3521	5.5	9.3634	5.8	0.6366	9.9887	.3
13° 10'	9.3575	5.4	9.3691	5.7	0.6309	9.9884	.3
13° 20'	9.3629	5.4	9.3748	5.7	0.6252	9.9881	.3
13° 30'	9.3682	5.3	9.3804	5.6	0.6196	9.9878	.3
13° 40'	9.3734	5.2	9.3859	5.5	0.6141	9.9875	.3
13° 50'	9.3786	5.2	9.3914	5.5	0.6086	9.9872	.3
14° 0'	9.3837	5.1	9.3968	5.4	0.6032	9.9869	.3
14° 10'	9.3887	5.0	9.4021	5.3	0.5979	9.9866	.3
14° 20'	9.3937	5.0	9.4074	5.3	0.5926	9.9863	.3
14° 30'	9.3986	4.9	9.4127	5.3	0.5873	9.9859	.4
14° 40'	9.4035	4.9	9.4178	5.1	0.5822	9.9856	.3
14° 50'	9.4083	4.8	9.4230	5.2	0.5770	9.9853	.3
15° 0'	9.4130	4.7	9.4281	5.1	0.5719	9.9849	.4
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	diff. 1'
75°-85°							
75° 0'							
75° 10'							
75° 20'							
75° 30'							
75° 40'							
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84° 10'							
84° 20'							
84° 30'							
84° 40'							
84° 50'							
85° 0'							

59.2
0.409

7

5.1

TABLE II. LOGARITHMIC SINES

15°-25°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	diff. 1'
15° 0'	9.4130	4.7	9.4281	5.0	0.5719	9.9849	
15° 10'	9.4177		9.4331	5.0	0.5669	9.9846	.3
15° 20'	9.4223	4.6	9.4381	4.9	0.5619	9.9843	.3
15° 30'	9.4269	4.6	9.4430	4.9	0.5570	9.9839	.4
15° 40'	9.4314	4.5	9.4479	4.9	0.5521	9.9836	.3
15° 50'	9.4359	4.5	9.4527	4.8	0.5473	9.9832	.4
16° 0'	9.4403	4.4	9.4575	4.8	0.5425	9.9828	.4
16° 10'	9.4447	4.4	9.4622	4.7	0.5378	9.9825	.3
16° 20'	9.4491	4.4	9.4669	4.7	0.5331	9.9821	.4
16° 30'	9.4533	4.2	9.4716	4.7	0.5284	9.9817	.4
16° 40'	9.4576	4.3	9.4762	4.6	0.5238	9.9814	.3
16° 50'	9.4618	4.2	9.4808	4.6	0.5192	9.9810	.4
17° 0'	9.4659	4.1	9.4853	4.5	0.5147	9.9806	.4
17° 10'	9.4700	4.1	9.4898	4.5	0.5102	9.9802	.4
17° 20'	9.4741	4.1	9.4943	4.5	0.5057	9.9798	.4
17° 30'	9.4781	4.0	9.4987	4.4	0.5013	9.9794	.4
17° 40'	9.4821	4.0	9.5031	4.4	0.4969	9.9790	.4
17° 50'	9.4861	4.0	9.5075	4.4	0.4925	9.9786	.4
18° 0'	9.4900	3.9	9.5118	4.3	0.4882	9.9782	.4
18° 10'	9.4939	3.9	9.5161	4.3	0.4839	9.9778	.4
18° 20'	9.4977	3.8	9.5203	4.2	0.4797	9.9774	.4
18° 30'	9.5015	3.8	9.5245	4.2	0.4755	9.9770	.4
18° 40'	9.5052	3.7	9.5287	4.2	0.4713	9.9765	.5
18° 50'	9.5090	3.8	9.5329	4.2	0.4671	9.9761	.4
19° 0'	9.5126	3.6	9.5370	4.1	0.4630	9.9757	.4
19° 10'	9.5163	3.7	9.5411	4.1	0.4589	9.9752	.5
19° 20'	9.5199	3.6	9.5451	4.0	0.4549	9.9748	.4
19° 30'	9.5235	3.6	9.5491	4.0	0.4509	9.9743	.5
19° 40'	9.5270	3.5	9.5531	4.0	0.4469	9.9739	.4
19° 50'	9.5306	3.6	9.5571	4.0	0.4429	9.9734	.5
20° 0'	9.5341	3.5	9.5611	4.0	0.4389	9.9730	.4
20° 10'	9.5375	3.4	9.5650	3.9	0.4350	9.9725	.5
20° 20'	9.5409	3.4	9.5689	3.9	0.4311	9.9721	.4
20° 30'	9.5443	3.4	9.5727	3.8	0.4273	9.9716	.5
20° 40'	9.5477	3.4	9.5766	3.9	0.4234	9.9711	.5
20° 50'	9.5510	3.3	9.5804	3.8	0.4196	9.9706	.5
21° 0'	9.5543	3.3	9.5842	3.8	0.4158	9.9702	.4
21° 10'	9.5576	3.3	9.5879	3.7	0.4121	9.9697	.5
21° 20'	9.5609	3.3	9.5917	3.8	0.4083	9.9692	.5
21° 30'	9.5641	3.2	9.5954	3.7	0.4046	9.9687	.5
21° 40'	9.5673	3.2	9.5991	3.7	0.4009	9.9682	.5
21° 50'	9.5704	3.1	9.6028	3.7	0.3972	9.9677	.5
22° 0'	9.5736	3.2	9.6064	3.6	0.3936	9.9672	.5
22° 10'	9.5767	3.1	9.6100	3.6	0.3900	9.9667	.5
22° 20'	9.5798	3.1	9.6136	3.6	0.3864	9.9661	.6
22° 30'	9.5828	3.0	9.6172	3.6	0.3828	9.9656	.5
22° 40'	9.5859	3.1	9.6208	3.6	0.3792	9.9651	.5
22° 50'	9.5889	3.0	9.6243	3.5	0.3757	9.9646	.5
23° 0'	9.5919	3.0	9.6279	3.6	0.3721	9.9640	.6
23° 10'	9.5948	2.9	9.6314	3.5	0.3686	9.9635	.5
23° 20'	9.5978	3.0	9.6348	3.4	0.3652	9.9629	.6
23° 30'	9.6007	2.9	9.6383	3.5	0.3617	9.9624	.5
23° 40'	9.6036	2.9	9.6417	3.4	0.3583	9.9618	.6
23° 50'	9.6065	2.9	9.6452	3.5	0.3548	9.9613	.5
24° 0'	9.6093	2.8	9.6486	3.4	0.3514	9.9607	.6
24° 10'	9.6121	2.8	9.6520	3.4	0.3480	9.9602	.5
24° 20'	9.6149	2.8	9.6553	3.3	0.3447	9.9596	.6
24° 30'	9.6177	2.8	9.6587	3.4	0.3413	9.9590	.6
24° 40'	9.6205	2.8	9.6620	3.3	0.3380	9.9584	.6
24° 50'	9.6232	2.7	9.6654	3.4	0.3346	9.9579	.5
25° 0'	9.6259	2.7	9.6687	3.3	0.3313	9.9573	.6
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	diff. 1'
							Angle
65°-75°							
75° 0'							
74° 50'							
74° 40'							
74° 30'							
74° 20'							
74° 10'							
74° 0'							
73° 50'							
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25°-35°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	diff. 1'
25° 0'	9.6259	2.7	9.6687	3.3	0.3313	9.9573	.6
25° 10'	9.6286	2.7	9.6720	3.2	0.3280	9.9567	.6
25° 20'	9.6313	2.7	9.6752	3.2	0.3248	9.9561	.6
25° 30'	9.6340	2.7	9.6785	3.3	0.3215	9.9555	.6
25° 40'	9.6366	2.6	9.6817	3.2	0.3183	9.9549	.6
25° 50'	9.6392	2.6	9.6850	3.3	0.3150	9.9543	.6
26° 0'	9.6418	2.6	9.6882	3.2	0.3118	9.9537	.6
26° 10'	9.6444	2.6	9.6914	3.2	0.3086	9.9530	.7
26° 20'	9.6470	2.6	9.6946	3.2	0.3054	9.9524	.6
26° 30'	9.6495	2.5	9.6977	3.1	0.3023	9.9518	.6
26° 40'	9.6521	2.6	9.7009	3.2	0.2991	9.9512	.6
26° 50'	9.6546	2.5	9.7040	3.1	0.2960	9.9505	.7
27° 0'	9.6570	2.4	9.7072	3.2	0.2928	9.9499	.6
27° 10'	9.6595	2.5	9.7103	3.1	0.2897	9.9492	.7
27° 20'	9.6620	2.5	9.7134	3.1	0.2866	9.9486	.6
27° 30'	9.6644	2.4	9.7165	3.1	0.2835	9.9479	.7
27° 40'	9.6668	2.4	9.7196	3.1	0.2804	9.9473	.6
27° 50'	9.6692	2.4	9.7226	3.0	0.2774	9.9466	.7
28° 0'	9.6716	2.4	9.7257	3.1	0.2743	9.9459	.7
28° 10'	9.6740	2.4	9.7287	3.0	0.2713	9.9453	.6
28° 20'	9.6763	2.3	9.7317	3.0	0.2683	9.9446	.7
28° 30'	9.6787	2.4	9.7348	3.1	0.2652	9.9439	.7
28° 40'	9.6810	2.3	9.7378	3.0	0.2622	9.9432	.7
28° 50'	9.6833	2.3	9.7408	3.0	0.2592	9.9425	.7
29° 0'	9.6856	2.3	9.7438	3.0	0.2562	9.9418	.7
29° 10'	9.6878	2.2	9.7467	2.9	0.2533	9.9411	.7
29° 20'	9.6901	2.3	9.7497	3.0	0.2503	9.9404	.7
29° 30'	9.6923	2.2	9.7526	2.9	0.2474	9.9397	.7
29° 40'	9.6946	2.3	9.7556	3.0	0.2444	9.9390	.7
29° 50'	9.6968	2.2	9.7585	2.9	0.2415	9.9383	.7
30° 0'	9.6990	2.2	9.7614	2.9	0.2386	9.9375	.8
30° 10'	9.7012	2.2	9.7644	2.9	0.2356	9.9368	.7
30° 20'	9.7033	2.1	9.7673	2.9	0.2327	9.9361	.7
30° 30'	9.7055	2.2	9.7701	2.8	0.2299	9.9353	.8
30° 40'	9.7076	2.1	9.7730	2.9	0.2270	9.9346	.7
30° 50'	9.7097	2.1	9.7759	2.9	0.2241	9.9338	.8
31° 0'	9.7118	2.1	9.7788	2.9	0.2212	9.9331	.7
31° 10'	9.7139	2.1	9.7816	2.8	0.2184	9.9323	.8
31° 20'	9.7160	2.1	9.7845	2.9	0.2155	9.9315	.8
31° 30'	9.7181	2.1	9.7873	2.8	0.2127	9.9308	.7
31° 40'	9.7201	2.0	9.7902	2.9	0.2098	9.9300	.8
31° 50'	9.7222	2.1	9.7930	2.8	0.2070	9.9292	.8
32° 0'	9.7242	2.0	9.7958	2.8	0.2042	9.9284	.8
32° 10'	9.7262	2.0	9.7986	2.8	0.2014	9.9276	.8
32° 20'	9.7282	2.0	9.8014	2.8	0.1986	9.9268	.8
32° 30'	9.7302	2.0	9.8042	2.8	0.1958	9.9260	.8
32° 40'	9.7322	2.0	9.8070	2.8	0.1930	9.9252	.8
32° 50'	9.7342	2.0	9.8097	2.7	0.1903	9.9244	.8
33° 0'	9.7361	1.9	9.8125	2.8	0.1875	9.9236	.8
33° 10'	9.7380	1.9	9.8153	2.8	0.1847	9.9228	.8
33° 20'	9.7400	2.0	9.8180	2.7	0.1820	9.9219	.9
33° 30'	9.7419	1.9	9.8208	2.8	0.1792	9.9211	.8
33° 40'	9.7438	1.9	9.8235	2.7	0.1765	9.9203	.8
33° 50'	9.7457	1.9	9.8263	2.8	0.1737	9.9194	.9
34° 0'	9.7476	1.9	9.8290	2.7	0.1710	9.9186	.8
34° 10'	9.7494	1.8	9.8317	2.7	0.1683	9.9177	.9
34° 20'	9.7513	1.9	9.8344	2.7	0.1656	9.9169	.8
34° 30'	9.7531	1.8	9.8371	2.7	0.1629	9.9160	.9
34° 40'	9.7550	1.9	9.8398	2.7	0.1602	9.9151	.9
34° 50'	9.7568	1.8	9.8425	2.7	0.1575	9.9142	.9
35° 0'	9.7586	1.8	9.8452	2.7	0.1548	9.9134	.8
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	diff. 1'
55°-65°							
65° 0'							
64° 50'							
64° 40'							
64° 30'							
64° 20'							
64° 10'							
64° 0'							
63° 50'							
63° 40'							
63° 30'							
63° 20'							
63° 10'							
63° 0'							
62° 50'							
62° 40'							
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56° 50'							
56° 40'							
56° 30'							
56° 20'							
56° 10'							
56° 0'							
55° 50'							
55° 40'							
55° 30'							
55° 20'							
55° 10'							
55° 0'							

TABLE II. LOGARITHMIC SINES

35°-45°							
Angle	log sin	diff. 1'	log tan	com. diff. 1'	log cot	log cos	diff. 1'
35° 0'	9.7586	1.8	9.8452	2.7	0.1548	9.9134	.9
35° 10'	9.7604	1.8	9.8479	2.7	0.1521	9.9125	.9
35° 20'	9.7622	1.8	9.8506	2.7	0.1494	9.9116	.9
35° 30'	9.7640	1.8	9.8533	2.7	0.1467	9.9107	.9
35° 40'	9.7657	1.7	9.8559	2.6	0.1441	9.9098	.9
35° 50'	9.7675	1.8	9.8586	2.7	0.1414	9.9089	.9
36° 0'	9.7692	1.7	9.8613	2.7	0.1387	9.9080	.9
36° 10'	9.7710	1.8	9.8639	2.6	0.1361	9.9070	1.0
36° 20'	9.7727	1.7	9.8666	2.7	0.1334	9.9061	.9
36° 30'	9.7744	1.7	9.8692	2.6	0.1308	9.9052	.9
36° 40'	9.7761	1.7	9.8718	2.6	0.1282	9.9042	1.0
36° 50'	9.7778	1.7	9.8745	2.7	0.1255	9.9033	.9
37° 0'	9.7795	1.7	9.8771	2.6	0.1229	9.9023	1.0
37° 10'	9.7811	1.6	9.8797	2.6	0.1203	9.9014	.9
37° 20'	9.7828	1.7	9.8824	2.7	0.1176	9.9004	1.0
37° 30'	9.7844	1.8	9.8850	2.6	0.1150	9.8995	.9
37° 40'	9.7861	1.7	9.8876	2.6	0.1124	9.8985	1.0
37° 50'	9.7877	1.6	9.8902	2.6	0.1098	9.8975	1.0
38° 0'	9.7893	1.6	9.8928	2.6	0.1072	9.8965	1.0
38° 10'	9.7910	1.7	9.8954	2.6	0.1046	9.8955	1.0
38° 20'	9.7926	1.6	9.8980	2.6	0.1020	9.8945	1.0
38° 30'	9.7941	1.5	9.9006	2.6	0.0994	9.8935	1.0
38° 40'	9.7957	1.6	9.9032	2.6	0.0968	9.8925	1.0
38° 50'	9.7973	1.6	9.9058	2.6	0.0942	9.8915	1.0
39° 0'	9.7989	1.6	9.9084	2.6	0.0916	9.8905	1.0
39° 10'	9.8004	1.5	9.9110	2.6	0.0890	9.8895	1.0
39° 20'	9.8020	1.6	9.9135	2.5	0.0865	9.8884	1.1
39° 30'	9.8035	1.5	9.9161	2.6	0.0839	9.8874	1.0
39° 40'	9.8050	1.5	9.9187	2.6	0.0813	9.8864	1.0
39° 50'	9.8066	1.6	9.9212	2.5	0.0788	9.8853	1.1
40° 0'	9.8081	1.5	9.9238	2.6	0.0762	9.8843	1.0
40° 10'	9.8096	1.5	9.9264	2.6	0.0736	9.8832	1.1
40° 20'	9.8111	1.5	9.9289	2.5	0.0711	9.8821	1.1
40° 30'	9.8125	1.4	9.9315	2.6	0.0685	9.8810	1.1
40° 40'	9.8140	1.5	9.9341	2.6	0.0659	9.8800	1.0
40° 50'	9.8155	1.5	9.9366	2.5	0.0634	9.8789	1.1
41° 0'	9.8169	1.4	9.9392	2.6	0.0608	9.8778	1.1
41° 10'	9.8184	1.5	9.9417	2.5	0.0583	9.8767	1.1
41° 20'	9.8198	1.4	9.9443	2.6	0.0557	9.8756	1.1
41° 30'	9.8213	1.5	9.9468	2.5	0.0532	9.8745	1.1
41° 40'	9.8227	1.4	9.9494	2.6	0.0506	9.8733	1.2
41° 50'	9.8241	1.4	9.9519	2.5	0.0481	9.8722	1.1
42° 0'	9.8255	1.4	9.9544	2.5	0.0456	9.8711	1.1
42° 10'	9.8269	1.4	9.9570	2.6	0.0430	9.8699	1.2
42° 20'	9.8283	1.4	9.9595	2.5	0.0405	9.8688	1.1
42° 30'	9.8297	1.4	9.9621	2.6	0.0379	9.8676	1.2
42° 40'	9.8311	1.4	9.9646	2.5	0.0354	9.8665	1.1
42° 50'	9.8324	1.3	9.9671	2.5	0.0329	9.8653	1.2
43° 0'	9.8338	1.4	9.9697	2.6	0.0303	9.8641	1.2
43° 10'	9.8351	1.3	9.9722	2.5	0.0278	9.8629	1.2
43° 20'	9.8365	1.4	9.9747	2.5	0.0253	9.8618	1.1
43° 30'	9.8378	1.3	9.9772	2.5	0.0228	9.8606	1.2
43° 40'	9.8391	1.3	9.9798	2.6	0.0202	9.8594	1.2
43° 50'	9.8405	1.4	9.9823	2.5	0.0177	9.8582	1.2
44° 0'	9.8418	1.3	9.9848	2.5	0.0152	9.8569	1.3
44° 10'	9.8431	1.3	9.9874	2.6	0.0126	9.8557	1.2
44° 20'	9.8444	1.3	9.9899	2.5	0.0101	9.8545	1.2
44° 30'	9.8457	1.3	9.9924	2.5	0.0076	9.8532	1.3
44° 40'	9.8469	1.2	9.9949	2.5	0.0051	9.8520	1.2
44° 50'	9.8482	1.3	9.9975	2.6	0.0025	9.8507	1.3
45° 0'	9.8495	1.3	0.0000	2.5	0.0000	9.8495	1.2
	log cos	diff. 1'	log cot	com. diff. 1'	log tan	log sin	diff. 1'
45°-55°							
							Angle

TO CHANGE FROM MINUTES AND SECONDS INTO THE DECIMAL
PARTS OF A DEGREE OR INTO RADIANS

From seconds	From minutes	From degrees into radians
1"=0.00028°=0.0000048 Rad.	1'=0.017°=0.00029 Rad.	1°=0.01745 Rad.
2"=0.00056°=0.0000097 "	2'=0.033°=0.00058 "	2°=0.03491 "
3"=0.00083°=0.0000145 "	3'=0.050°=0.00087 "	3°=0.05236 "
4"=0.00111°=0.0000194 "	4'=0.067°=0.00116 "	4°=0.06981 "
5"=0.00139°=0.0000242 "	5'=0.083°=0.00145 "	5°=0.08727 "
6"=0.00167°=0.0000291 "	6'=0.100°=0.00175 "	6°=0.10472 "
7"=0.00194°=0.0000339 "	7'=0.117°=0.00204 "	7°=0.12217 "
8"=0.00222°=0.0000388 "	8'=0.133°=0.00233 "	8°=0.13963 "
9"=0.00250°=0.0000436 "	9'=0.150°=0.00262 "	9°=0.15708 "
10"=0.00278°=0.0000485 "	10'=0.167°=0.00291 "	10°=0.17453 "
20"=0.00556°=0.0000970 "	20'=0.333°=0.00582 "	20°=0.34907 "
30"=0.00833°=0.0001454 "	30'=0.500°=0.00873 "	30°=0.52360 "
40"=0.01111°=0.0001939 "	40'=0.667°=0.01164 "	40°=0.69813 "
50"=0.01389°=0.0002424 "	50'=0.833°=0.01454 "	50°=0.87266 "

TO CHANGE FROM DECIMAL PARTS OF A DEGREE INTO MINUTES
AND SECONDS

0.0000° = 0.000' = 0"	0.20° = 12.0' = 12'	0.60° = 36.0' = 36'
0.0001° = 0.006' = 0.36"	0.21° = 12.6' = 12' 36"	0.61° = 36.6' = 36' 36"
0.0002° = 0.012' = 0.72"	0.22° = 13.2' = 13' 12"	0.62° = 37.2' = 37' 12"
0.0003° = 0.018' = 1.08"	0.23° = 13.8' = 13' 48"	0.63° = 37.8' = 37' 48"
0.0004° = 0.024' = 1.44"	0.24° = 14.4' = 14' 24"	0.64° = 38.4' = 38' 24"
0.0005° = 0.030' = 1.80"	0.25° = 15.0' = 15'	0.65° = 39.0' = 39'
0.0006° = 0.036' = 2.16"	0.26° = 15.6' = 15' 36"	0.66° = 39.6' = 39' 36"
0.0007° = 0.042' = 2.52"	0.27° = 16.2' = 16' 12"	0.67° = 40.2' = 40' 12"
0.0008° = 0.048' = 2.88"	0.28° = 16.8' = 16' 48"	0.68° = 40.8' = 40' 48"
0.0009° = 0.054' = 3.24"	0.29° = 17.4' = 17' 24"	0.69° = 41.4' = 41' 24"
0.0010° = 0.060' = 3.60"	0.30° = 18.0' = 18'	0.70° = 42.0' = 42'
0.001° = 0.06' = 3.6"	0.31° = 18.6' = 18' 36"	0.71° = 42.6' = 42' 36"
0.002° = 0.12' = 7.2"	0.32° = 19.2' = 19' 12"	0.72° = 43.2' = 43' 12"
0.003° = 0.18' = 10.8"	0.33° = 19.8' = 19' 48"	0.73° = 43.8' = 43' 48"
0.004° = 0.24' = 14.4"	0.34° = 20.4' = 20' 24"	0.74° = 44.4' = 44' 24"
0.005° = 0.30' = 18.0"	0.35° = 21.0' = 21'	0.75° = 45.0' = 45'
0.006° = 0.36' = 21.6"	0.36° = 21.6' = 21' 36"	0.76° = 45.6' = 45' 36"
0.007° = 0.42' = 25.2"	0.37° = 22.2' = 22' 12"	0.77° = 46.2' = 46' 12"
0.008° = 0.48' = 28.8"	0.38° = 22.8' = 22' 48"	0.78° = 46.8' = 46' 48"
0.009° = 0.54' = 32.4"	0.39° = 23.4' = 23' 24"	0.79° = 47.4' = 47' 24"
0.010° = 0.60' = 36.0"	0.40° = 24.0' = 24'	0.80° = 48.0' = 48'
0.01° = 0.6' = 36"	0.41° = 24.6' = 24' 36"	0.81° = 48.6' = 48' 36"
0.02° = 1.2' = 1' 12"	0.42° = 25.2' = 25' 12"	0.82° = 49.2' = 49' 12"
0.03° = 1.8' = 1' 48"	0.43° = 25.8' = 25' 48"	0.83° = 49.8' = 49' 48"
0.04° = 2.4' = 2' 24"	0.44° = 26.4' = 26' 24"	0.84° = 50.4' = 50' 24"
0.05° = 3.0' = 3'	0.45° = 27.0' = 27'	0.85° = 51.0' = 51'
0.06° = 3.6' = 3' 36"	0.46° = 27.6' = 27' 36"	0.86° = 51.6' = 51' 36"
0.07° = 4.2' = 4' 12"	0.47° = 28.2' = 28' 12"	0.87° = 52.2' = 52' 12"
0.08° = 4.8' = 4' 48"	0.48° = 28.8' = 28' 48"	0.88° = 52.8' = 52' 48"
0.09° = 5.4' = 5' 24"	0.49° = 29.4' = 29' 24"	0.89° = 53.4' = 53' 24"
0.10° = 6.0' = 6'	0.50° = 30.0' = 30'	0.90° = 54.0' = 54'
0.11° = 6.6' = 6' 36"	0.51° = 30.6' = 30' 36"	0.91° = 54.6' = 54' 36"
0.12° = 7.2' = 7' 12"	0.52° = 31.2' = 31' 12"	0.92° = 55.2' = 55' 12"
0.13° = 7.8' = 7' 48"	0.53° = 31.8' = 31' 48"	0.93° = 55.8' = 55' 48"
0.14° = 8.4' = 8' 24"	0.54° = 32.4' = 32' 24"	0.94° = 56.4' = 56' 24"
0.15° = 9.0' = 9'	0.55° = 33.0' = 33'	0.95° = 57.0' = 57'
0.16° = 9.6' = 9' 36"	0.56° = 33.6' = 33' 36"	0.96° = 57.6' = 57' 36"
0.17° = 10.2' = 10' 12"	0.57° = 34.2' = 34' 12"	0.97° = 58.2' = 58' 12"
0.18° = 10.8' = 10' 48"	0.58° = 34.8' = 34' 48"	0.98° = 58.8' = 58' 48"
0.19° = 11.4' = 11' 24"	0.59° = 35.4' = 35' 24"	0.99° = 59.4' = 59' 24"
0.20° = 12.0' = 12'	0.60° = 36.0' = 36'	1.00° = 60.0' = 60'

TABLE III

FOUR-PLACE LOGARITHMS OF TRIGONOMETRIC FUNCTIONS, THE ANGLE BEING EXPRESSED IN DEGREES AND THE DECIMAL PART OF A DEGREE

This table gives the common logarithms (base 10) of the sines, cosines, tangents, and cotangents of all angles from 0° to 5° , and from 85° to 90° for every hundredth part of a degree, and from 5° to 85° for every tenth of a degree, all calculated to four places of decimals. In order to avoid the printing of negative characteristics, the number 10 has been added to every logarithm in the first, second, and fourth columns (those having $\log \sin$, $\log \tan$, and $\log \cos$ at the top). Hence in writing down any logarithm taken from these three columns -10 should be written after it. Logarithms taken from the third column (having $\log \cot$ at the top) should be used as printed.

A logarithm found from this table by interpolation may be in error by one unit in the last decimal place, except for angles between 0° and 0.3° or between 89.7° and 90° , when the error may be larger. In the latter cases the table refers the student to the formulas on page 6 for more accurate results.

$$\begin{array}{r} 18 \\ 7 \\ \hline 121 \\ 25 \\ \hline 146 \\ 2 \\ \hline 148 \end{array}$$

0°											
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos		Prop. Parts			
0.00°	—		—		—	10.0000	90.00°	Extra digit	Difference		
0.01°	6.2419		6.2419		3.7581	10.0000	89.99°				
0.02°	6.5429		6.5429		3.4571	10.0000	89.98°				
0.03°	6.7190		6.7190		3.2810	10.0000	89.97°				
0.04°	6.8439		6.8439		3.1561	10.0000	89.96°				
0.05°	6.9408		6.9408		3.0592	10.0000	89.95°				
0.06°	7.0200		7.0200		2.9800	10.0000	89.94°				
0.07°	7.0870		7.0870		2.9130	10.0000	89.93°				
0.08°	7.1450		7.1450		2.8550	10.0000	89.92°				
0.09°	7.1961		7.1961		2.8039	10.0000	89.91°				
0.10°	7.2419		7.2419		2.7581	10.0000	89.90°		79	78	77
0.11°	7.2833		7.2833		2.7167	10.0000	89.89°	1	7.9	7.8	7.7
0.12°	7.3211		7.3211		2.6789	10.0000	89.88°	2	15.8	15.6	15.4
0.13°	7.3558		7.3558		2.6442	10.0000	89.87°	3	23.7	23.4	23.1
0.14°	7.3880		7.3880		2.6120	10.0000	89.86°	4	31.6	31.2	30.8
0.15°	7.4180		7.4180		2.5820	10.0000	89.85°	5	39.5	39.0	38.5
0.16°	7.4460		7.4460		2.5540	10.0000	89.84°	6	47.4	46.8	46.2
0.17°	7.4723		7.4723		2.5277	10.0000	89.83°	7	55.3	54.6	53.9
0.18°	7.4971		7.4972		2.5028	10.0000	89.82°	8	63.2	62.4	61.6
0.19°	7.5206		7.5206		2.4794	10.0000	89.81°	9	71.1	70.2	69.3
0.20°	7.5429		7.5429		2.4571	10.0000	89.80°		76	75	74
0.21°	7.5641		7.5641		2.4359	10.0000	89.79°	1	7.6	7.5	7.4
0.22°	7.5843		7.5843		2.4157	10.0000	89.78°	2	15.2	15.0	14.8
0.23°	7.6036		7.6036		2.3964	10.0000	89.77°	3	22.8	22.5	22.2
0.24°	7.6221		7.6221		2.3779	10.0000	89.76°	4	30.4	30.0	29.6
0.25°	7.6398		7.6398		2.3602	10.0000	89.75°	5	38.0	37.5	37.0
0.26°	7.6568		7.6569		2.3431	10.0000	89.74°	6	45.6	45.0	44.4
0.27°	7.6732		7.6732		2.3268	10.0000	89.73°	7	53.2	52.5	51.8
0.28°	7.6890		7.6890		2.3110	10.0000	89.72°	8	60.8	60.0	59.2
0.29°	7.7043		7.7043		2.2957	10.0000	89.71°	9	68.4	67.5	66.6
0.30°	7.7190		7.7190		2.2810	10.0000	89.70°		73	72	71
0.31°	7.7332	149	7.7332	149	2.2668	10.0000	89.69°	1	7.3	7.2	7.1
0.32°	7.7470	138	7.7470	138	2.2530	10.0000	89.68°	2	14.6	14.4	14.2
0.33°	7.7604	134	7.7604	134	2.2396	10.0000	89.67°	3	21.9	21.6	21.3
0.34°	7.7734	130	7.7734	130	2.2266	10.0000	89.66°	4	29.2	28.8	28.4
0.35°	7.7859	125	7.7860	126	2.2140	10.0000	89.65°	5	36.5	36.0	35.5
0.36°	7.7982	123	7.7982	122	2.2018	10.0000	89.64°	6	43.8	43.2	42.6
0.37°	7.8101	119	7.8101	119	2.1899	10.0000	89.63°	7	51.1	50.4	49.7
0.38°	7.8217	116	7.8217	116	2.1783	10.0000	89.62°	8	58.4	57.6	56.8
0.39°	7.8329	112	7.8329	112	2.1671	10.0000	89.61°	9	65.7	64.8	63.9
0.40°	7.8439	110	7.8439	110	2.1561	10.0000	89.60°		69	68	67
0.41°	7.8547	108	7.8547	108	2.1453	10.0000	89.59°	1	6.9	6.8	6.7
0.42°	7.8651	104	7.8651	104	2.1349	10.0000	89.58°	2	13.8	13.6	13.4
0.43°	7.8753	102	7.8754	103	2.1246	10.0000	89.57°	3	20.7	20.4	20.1
0.44°	7.8853	100	7.8853	99	2.1147	10.0000	89.56°	4	27.6	27.2	26.8
0.45°	7.8951	98	7.8951	98	2.1049	10.0000	89.55°	5	34.5	34.0	33.5
0.46°	7.9046	95	7.9046	95	2.0954	10.0000	89.54°	6	41.4	40.8	40.2
0.47°	7.9140	94	7.9140	94	2.0860	10.0000	89.53°	7	48.3	47.6	46.9
0.48°	7.9231	91	7.9231	91	2.0769	10.0000	89.52°	8	55.2	54.4	53.6
0.49°	7.9321	90	7.9321	90	2.0678	10.0000	89.51°	9	62.1	61.2	60.3
0.50°	7.9408	87	7.9409	88	2.0591	10.0000	89.50°		66	65	64
								1	6.6	6.5	6.4
								2	13.2	13.0	12.8
								3	19.8	19.5	19.2
								4	26.4	26.0	25.6
								5	33.0	32.5	32.0
								6	39.6	39.0	38.4
								7	46.2	45.5	44.8
								8	52.8	52.0	51.2
								9	59.4	58.5	57.6
									63	62	61
								1	6.3	6.2	6.1
								2	12.6	12.4	12.2
								3	18.9	18.6	18.3
								4	25.2	24.8	24.4
								5	31.5	31.0	30.5
								6	37.8	37.2	36.6
								7	44.1	43.4	42.7
								8	50.4	49.6	48.8
								9	56.7	55.8	54.9
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle	89°			

0°											
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos		Prop. Parts			
0.50°	7.9408		7.9409		2.0591	10.0000	89.50°	Extra digit	Difference		
0.51°	7.9494	86	7.9495	86	2.0505	10.0000	89.49°				
0.52°	7.9579	85	7.9579	84	2.0421	10.0000	89.48°				
0.53°	7.9661	89	7.9662	83	2.0338	10.0000	89.47°				
		82		81							
0.54°	7.9743		7.9743		2.0257	10.0000	89.46°				
0.55°	7.9822	79	7.9823	80	2.0177	10.0000	89.45°				
0.56°	7.9901	79	7.9901	78	2.0099	10.0000	89.44°				
		76		77							
0.57°	7.9977		7.9978		2.0022	10.0000	89.43°				
0.58°	8.0053	76	8.0053	75	1.9947	10.0000	89.42°				
0.59°	8.0127	74	8.0127	74	1.9873	10.0000	89.41°				
		73		73							
0.60°	8.0200		8.0200		1.9800	10.0000	89.40°				
		72		72							
0.61°	8.0272		8.0272		1.9728	10.0000	89.39°				
0.62°	8.0343	71	8.0343	71	1.9657	10.0000	89.38°				
0.63°	8.0412	69	8.0412	69	1.9588	10.0000	89.37°				
		68		69							
0.64°	8.0480		8.0481		1.9519	10.0000	89.36°				
0.65°	8.0548	68	8.0548	67	1.9452	10.0000	89.35°				
0.66°	8.0614	66	8.0614	66	1.9386	10.0000	89.34°				
		65		66							
0.67°	8.0679		8.0680		1.9320	10.0000	89.33°				
0.68°	8.0744	65	8.0744	64	1.9256	10.0000	89.32°				
0.69°	8.0807	63	8.0807	63	1.9193	10.0000	89.31°				
		63		63							
0.70°	8.0870		8.0870		1.9130	10.0000	89.30°				
		61		62							
0.71°	8.0931		8.0932		1.9068	10.0000	89.29°				
0.72°	8.0992	61	8.0992	60	1.9008	10.0000	89.28°				
0.73°	8.1052	60	8.1052	60	1.8948	10.0000	89.27°				
		59		59							
0.74°	8.1111		8.1111		1.8889	10.0000	89.26°				
0.75°	8.1169	58	8.1170	59	1.8830	10.0000	89.25°				
0.76°	8.1227	58	8.1227	57	1.8773	10.0000	89.24°				
		57		57							
0.77°	8.1284		8.1284		1.8716	10.0000	89.23°				
0.78°	8.1340	56	8.1340	56	1.8660	10.0000	89.22°				
0.79°	8.1395	55	8.1395	55	1.8605	10.0000	89.21°				
		55		55							
0.80°	8.1450		8.1450		1.8550	10.0000	89.20°				
		53		54							
0.81°	8.1503		8.1504		1.8496	10.0000	89.19°				
0.82°	8.1557	54	8.1557	53	1.8443	10.0000	89.18°				
0.83°	8.1609	52	8.1610	53	1.8390	10.0000	89.17°				
		52		52							
0.84°	8.1661		8.1662		1.8338	10.0000	89.16°				
0.85°	8.1713	52	8.1713	51	1.8287	10.0000	89.15°				
0.86°	8.1764	51	8.1764	51	1.8236	10.0000	89.14°				
		50		50							
0.87°	8.1814		8.1814		1.8186	9.9999	89.13°				
0.88°	8.1863	49	8.1864	50	1.8136	9.9999	89.12°				
0.89°	8.1912	49	8.1913	49	1.8087	9.9999	89.11°				
		49		49							
0.90°	8.1961		8.1962		1.8038	9.9999	89.10°				
		48		48							
0.91°	8.2009		8.2010		1.7990	9.9999	89.09°				
0.92°	8.2056	47	8.2057	47	1.7943	9.9999	89.08°				
0.93°	8.2103	47	8.2104	47	1.7896	9.9999	89.07°				
		47		46							
0.94°	8.2150		8.2150		1.7850	9.9999	89.06°				
0.95°	8.2196	46	8.2196	46	1.7804	9.9999	89.05°				
0.96°	8.2241	45	8.2242	46	1.7758	9.9999	89.04°				
		45		45							
0.97°	8.2286		8.2287		1.7713	9.9999	89.03°				
0.98°	8.2331	45	8.2331	44	1.7669	9.9999	89.02°				
0.99°	8.2375	44	8.2376	45	1.7624	9.9999	89.01°				
		44		43							
1.00°	8.2419		8.2419		1.7581	9.9999	89.00°				
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle				

89°

TABLE III. LOGARITHMIC SINES

1°

Angle	log sin	diff.	log tan	com. diff.	log cot	log cos		Prop. Parts		
1.00°	8.2419		8.2419		1.7581	9.9999	89.00°	Extra digit	Difference	
1.01°	8.2462	43	8.2462	43	1.7538	9.9999	88.99°			
1.02°	8.2505	43	8.2505	43	1.7495	9.9999	88.98°			
1.03°	8.2547	42	8.2548	42	1.7452	9.9999	88.97°			
1.04°	8.2589		8.2590		1.7410	9.9999	88.96°			
1.05°	8.2630	41	8.2631	41	1.7369	9.9999	88.95°			
1.06°	8.2672	42	8.2672	41	1.7328	9.9999	88.94°			
1.07°	8.2712		8.2713		1.7287	9.9999	88.93°			
1.08°	8.2753	41	8.2754	41	1.7246	9.9999	88.92°			
1.09°	8.2793	40	8.2794	40	1.7206	9.9999	88.91°			
1.10°	8.2832	39	8.2833	39	1.7167	9.9999	88.90°	1	43	42
1.11°	8.2872	40	8.2873	40	1.7127	9.9999	88.89°	2	4.3	4.2
1.12°	8.2911	39	8.2912	39	1.7088	9.9999	88.88°	3	8.6	8.4
1.13°	8.2949	38	8.2950	38	1.7050	9.9999	88.87°	4	12.9	12.6
1.14°	8.2988	37	8.2988	38	1.7012	9.9999	88.86°	5	17.2	16.8
1.15°	8.3025	38	8.3026	38	1.6974	9.9999	88.85°	6	21.5	21.0
1.16°	8.3063	37	8.3064	37	1.6936	9.9999	88.84°	7	25.8	25.2
1.17°	8.3100		8.3101		1.6899	9.9999	88.83°	8	30.1	29.4
1.18°	8.3137	37	8.3138	37	1.6862	9.9999	88.82°	9	34.4	33.6
1.19°	8.3174	36	8.3175	36	1.6825	9.9999	88.81°	1	38.7	37.8
1.20°	8.3210	36	8.3211	36	1.6789	9.9999	88.80°	2	41	40
1.21°	8.3246	36	8.3247	36	1.6753	9.9999	88.79°	3	4.1	4.0
1.22°	8.3282	35	8.3283	35	1.6717	9.9999	88.78°	4	8.2	8.0
1.23°	8.3317	36	8.3318	36	1.6682	9.9999	88.77°	5	12.3	12.0
1.24°	8.3353	35	8.3354	35	1.6646	9.9999	88.76°	6	16.4	16.0
1.25°	8.3388	34	8.3389	34	1.6611	9.9999	88.75°	7	20.5	20.0
1.26°	8.3422	34	8.3423	35	1.6577	9.9999	88.74°	8	24.6	24.0
1.27°	8.3456	35	8.3458	34	1.6542	9.9999	88.73°	9	28.7	28.0
1.28°	8.3491	33	8.3492	34	1.6508	9.9999	88.72°	1	32.8	32.0
1.29°	8.3524	34	8.3525	34	1.6475	9.9999	88.71°	2	36.9	36.0
1.30°	8.3558	33	8.3559	33	1.6441	9.9999	88.70°	3	39	38
1.31°	8.3591	33	8.3592	33	1.6408	9.9999	88.69°	4	3.9	3.8
1.32°	8.3624	33	8.3625	33	1.6375	9.9999	88.68°	5	7.8	7.6
1.33°	8.3657	32	8.3658	33	1.6342	9.9999	88.67°	6	11.7	11.4
1.34°	8.3689	33	8.3691	32	1.6309	9.9999	88.66°	7	15.6	15.2
1.35°	8.3722	32	8.3723	32	1.6277	9.9999	88.65°	8	19.5	19.0
1.36°	8.3754	32	8.3755	32	1.6245	9.9999	88.64°	9	23.4	22.8
1.37°	8.3786	31	8.3787	31	1.6213	9.9999	88.63°	1	27.3	26.6
1.38°	8.3817	31	8.3818	31	1.6182	9.9999	88.62°	2	31.2	30.4
1.39°	8.3848	32	8.3850	32	1.6150	9.9999	88.61°	3	35.1	34.2
1.40°	8.3880	31	8.3881	31	1.6119	9.9999	88.60°	4	37	36
1.41°	8.3911	30	8.3912	31	1.6088	9.9999	88.59°	5	3.7	3.6
1.42°	8.3941	31	8.3943	30	1.6057	9.9999	88.58°	6	7.4	7.2
1.43°	8.3972	30	8.3973	30	1.6027	9.9999	88.57°	7	11.1	10.8
1.44°	8.4002	30	8.4003	30	1.5997	9.9999	88.56°	8	14.8	14.4
1.45°	8.4032	30	8.4033	30	1.5967	9.9999	88.55°	9	18.5	18.0
1.46°	8.4062	29	8.4063	30	1.5937	9.9999	88.54°	1	22.2	21.6
1.47°	8.4091	30	8.4093	29	1.5907	9.9999	88.53°	2	25.9	25.2
1.48°	8.4121	29	8.4122	29	1.5878	9.9999	88.52°	3	29.6	28.8
1.49°	8.4150	29	8.4152	30	1.5848	9.9999	88.51°	4	33.3	32.4
1.50°	8.4179	29	8.4181	29	1.5819	9.9999	88.50°	5	36.9	36.0
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle	6	39	38
								7	3.9	3.8
								8	7.8	7.6
								9	11.7	11.4
								1	15.6	15.2
								2	19.5	19.0
								3	23.4	22.8
								4	27.3	26.6
								5	31.2	30.4
								6	35.1	34.2
								7	37	36
								8	3.7	3.6
								9	7.4	7.2
								1	11.1	10.8
								2	14.8	14.4
								3	18.5	18.0
								4	22.2	21.6
								5	25.9	25.2
								6	29.6	28.8
								7	33.3	32.4
								8	36.9	36.0
								9	39	38
								1	3.9	3.8
								2	7.8	7.6
								3	11.7	11.4
								4	15.6	15.2
								5	19.5	19.0
								6	23.4	22.8
								7	27.3	26.6
								8	31.2	30.4
								9	35.1	34.2
								1	37	36
								2	3.7	3.6
								3	7.4	7.2
								4	11.1	10.8
								5	14.8	14.4
								6	18.5	18.0
								7	22.2	21.6
								8	25.9	25.2
								9	29.6	28.8
								1	33.3	32.4
								2	36.9	36.0
								3	39	38
								4	3.9	3.8
								5	7.8	7.6
								6	11.7	11.4
								7	15.6	15.2
								8	19.5	19.0
								9	23.4	22.8
								1	27.3	26.6
								2	31.2	30.4
								3	35.1	34.2
								4	37	36
								5	3.7	3.6
								6	7.4	7.2
								7	11.1	10.8
								8	14.8	14.4
								9	18.5	18.0
								1	22.2	21.6
								2	25.9	25.2
								3	29.6	28.8
								4	33.3	32.4
								5	36.9	36.0
								6	39	38
								7	3.9	3.8
								8	7.8	7.6
								9	11.7	11.4
								1	15.6	15.2
								2	19.5	19.0
								3	23.4	22.8
								4	27.3	26.6
								5	31.2	30.4
								6	35.1	34.2
								7	37	36
								8	3.7	3.6
								9	7.4	7.2
								1	11.1	10.8
								2	14.8	14.4
								3	18.5	18.0
								4	22.2	21.6
								5	25.9	25.2
								6	29.6	28.8
								7	33.3	32.4
								8	36.9	36.0
								9	39	38
								1	3.9	3.8
								2	7.8	7.6
								3	11.7	11.4
								4	15.6	15.2
								5	19.5	19.0
								6	23.4	22.8
								7	27.3	26.6
								8	31.2	30.4
								9	35.1	34.2
								1	37	36
								2	3.7	3.6
								3	7.4	7.2
								4	11.1	10.8
								5	14.8	14.4
								6	18.5	18.0
								7	22.2	21.6
								8	25.9	25.2
								9	29.6	28.8
								1	33.3	32.4
								2	36.9	36.0
								3	39	38
								4	3.9	3.8
								5	7.8	7.6
								6	11.7	11.4
								7	15.6	15.2
								8	19.5	19.0
								9	23.4	22.8
								1	27.3	26.6
								2	31.2	30.4
								3	35.1	34.2
								4	37	36
								5	3.7	3.6
								6	7.4	7.2
								7	11.1	10.8

1°										
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	Prop. Parts			
1.50°	8.4179		8.4181		1.5819	9.9999	88.50°	Extra digit	Difference	
1.51°	8.4208	29	8.4210	29	1.5790	9.9998	88.49°			
1.52°	8.4237	29	8.4238	29	1.5762	9.9998	88.48°			
1.53°	8.4265	28	8.4267	28	1.5733	9.9998	88.47°			
1.54°	8.4293		8.4295		1.5705	9.9998	88.46°			
1.55°	8.4322	29	8.4323	28	1.5677	9.9998	88.45°			
1.56°	8.4349	27	8.4351	28	1.5649	9.9998	88.44°			
1.57°	8.4377	28	8.4379	27	1.5621	9.9998	88.43°			
1.58°	8.4405	27	8.4406	28	1.5594	9.9998	88.42°			
1.59°	8.4432	27	8.4434	27	1.5566	9.9998	88.41°			
1.60°	8.4459	27	8.4461	27	1.5539	9.9998	88.40°	1	29	28
1.61°	8.4486	27	8.4488	27	1.5512	9.9998	88.39°	2	2.9	2.8
1.62°	8.4513	27	8.4515	27	1.5485	9.9998	88.38°	3	5.8	5.6
1.63°	8.4540	27	8.4542	27	1.5458	9.9998	88.37°	4	8.7	8.4
1.64°	8.4567	26	8.4568	26	1.5432	9.9998	88.36°	5	11.6	11.2
1.65°	8.4593	26	8.4595	26	1.5405	9.9998	88.35°	6	14.5	14.0
1.66°	8.4619	26	8.4621	26	1.5379	9.9998	88.34°	7	17.4	16.8
1.67°	8.4645	26	8.4647	26	1.5353	9.9998	88.33°	8	20.3	19.6
1.68°	8.4671	26	8.4673	26	1.5327	9.9998	88.32°	9	23.2	22.4
1.69°	8.4697	26	8.4699	26	1.5301	9.9998	88.31°		26.1	25.2
1.70°	8.4723	25	8.4725	25	1.5275	9.9998	88.30°	1	27	26
1.71°	8.4748	25	8.4750	25	1.5250	9.9998	88.29°	2	2.7	2.6
1.72°	8.4773	26	8.4775	26	1.5225	9.9998	88.28°	3	5.4	5.2
1.73°	8.4799	25	8.4801	26	1.5199	9.9998	88.27°	4	8.1	7.8
1.74°	8.4824	24	8.4826	25	1.5174	9.9998	88.26°	5	10.8	10.4
1.75°	8.4848	25	8.4851	24	1.5149	9.9998	88.25°	6	13.5	13.0
1.76°	8.4873	25	8.4875	25	1.5125	9.9998	88.24°	7	16.2	15.6
1.77°	8.4898	24	8.4900	24	1.5100	9.9998	88.23°	8	18.9	18.2
1.78°	8.4922	25	8.4924	25	1.5076	9.9998	88.22°	9	21.6	20.8
1.79°	8.4947	24	8.4949	24	1.5051	9.9998	88.21°		24.3	23.4
1.80°	8.4971	24	8.4973	24	1.5027	9.9998	88.20°	1	25	24
1.81°	8.4995	24	8.4997	24	1.5003	9.9998	88.19°	2	2.5	2.4
1.82°	8.5019	24	8.5021	24	1.4979	9.9998	88.18°	3	5.0	4.8
1.83°	8.5043	23	8.5045	23	1.4955	9.9998	88.17°	4	7.5	7.2
1.84°	8.5066	24	8.5068	24	1.4932	9.9998	88.16°	5	10.0	9.6
1.85°	8.5090	23	8.5092	23	1.4908	9.9998	88.15°	6	12.5	12.0
1.86°	8.5113	23	8.5115	24	1.4885	9.9998	88.14°	7	15.0	14.4
1.87°	8.5136	24	8.5139	23	1.4861	9.9998	88.13°	8	17.5	16.8
1.88°	8.5160	23	8.5162	23	1.4838	9.9998	88.12°	9	20.0	19.2
1.89°	8.5183	23	8.5185	23	1.4815	9.9998	88.11°		22.5	21.6
1.90°	8.5206	22	8.5208	23	1.4792	9.9998	88.10°	1	23	22
1.91°	8.5228	23	8.5231	22	1.4769	9.9998	88.09°	2	2.3	2.2
1.92°	8.5251	23	8.5253	23	1.4747	9.9998	88.08°	3	4.6	4.4
1.93°	8.5274	22	8.5276	22	1.4724	9.9998	88.07°	4	6.9	6.6
1.94°	8.5296	22	8.5298	23	1.4702	9.9998	88.06°	5	9.2	8.8
1.95°	8.5318	22	8.5321	22	1.4679	9.9997	88.05°	6	11.5	11.0
1.96°	8.5340	23	8.5343	22	1.4657	9.9997	88.04°	7	13.8	13.2
1.97°	8.5363	22	8.5365	22	1.4635	9.9997	88.03°	8	16.1	15.4
1.98°	8.5385	21	8.5387	22	1.4613	9.9997	88.02°	9	18.4	17.6
1.99°	8.5406	22	8.5409	22	1.4591	9.9997	88.01°		20.7	19.8
2.00°	8.5428	22	8.5431	22	1.4569	9.9997	88.00°			
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle			

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TABLE III. LOGARITHMIC SINES

2°								Prop. Parts	
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos		Extra digit	Difference
2.00°	8.5428	22	8.5431	22	1.4569	9.9997	88.00°		
2.01°	8.5450	21	8.5453	21	1.4547	9.9997	87.99°		
2.02°	8.5471	22	8.5474	21	1.4526	9.9997	87.98°		
2.03°	8.5493	21	8.5496	22	1.4504	9.9997	87.97°		
2.04°	8.5514	21	8.5517	21	1.4483	9.9997	87.96°		
2.05°	8.5535	22	8.5538	21	1.4462	9.9997	87.95°		
2.06°	8.5557	21	8.5559	21	1.4441	9.9997	87.94°		
2.07°	8.5578	20	8.5580	21	1.4420	9.9997	87.93°	1	2.2
2.08°	8.5598	21	8.5601	21	1.4399	9.9997	87.92°	2	4.4
2.09°	8.5619	21	8.5622	21	1.4378	9.9997	87.91°	3	6.6
2.10°	8.5640	21	8.5643	21	1.4357	9.9997	87.90°	4	8.8
2.11°	8.5661	20	8.5664	20	1.4336	9.9997	87.89°	5	11.0
2.12°	8.5681	21	8.5684	20	1.4316	9.9997	87.88°	6	13.2
2.13°	8.5702	20	8.5705	20	1.4295	9.9997	87.87°	7	15.4
2.14°	8.5722	20	8.5725	20	1.4275	9.9997	87.86°	8	17.6
2.15°	8.5742	20	8.5745	20	1.4255	9.9997	87.85°	9	19.8
2.16°	8.5762	20	8.5765	20	1.4235	9.9997	87.84°		
2.17°	8.5782	20	8.5785	20	1.4215	9.9997	87.83°	1	2.1
2.18°	8.5802	20	8.5805	20	1.4195	9.9997	87.82°	2	4.2
2.19°	8.5822	20	8.5825	20	1.4175	9.9997	87.81°	3	6.3
2.20°	8.5842	20	8.5845	20	1.4155	9.9997	87.80°	4	8.4
2.21°	8.5862	19	8.5865	19	1.4135	9.9997	87.79°	5	10.5
2.22°	8.5881	20	8.5884	19	1.4116	9.9997	87.78°	6	12.6
2.23°	8.5901	19	8.5904	20	1.4096	9.9997	87.77°	7	14.7
2.24°	8.5920	19	8.5923	19	1.4077	9.9997	87.76°	8	16.8
2.25°	8.5939	20	8.5943	19	1.4057	9.9997	87.75°	9	18.9
2.26°	8.5959	19	8.5962	19	1.4038	9.9997	87.74°		
2.27°	8.5978	19	8.5981	19	1.4019	9.9997	87.73°	1	1.9
2.28°	8.5997	19	8.6000	19	1.4000	9.9997	87.72°	2	3.8
2.29°	8.6016	19	8.6019	19	1.3981	9.9997	87.71°	3	5.7
2.30°	8.6035	19	8.6038	19	1.3962	9.9996	87.70°	4	7.6
2.31°	8.6054	18	8.6057	19	1.3943	9.9996	87.69°	5	9.5
2.32°	8.6072	19	8.6076	19	1.3924	9.9996	87.68°	6	11.4
2.33°	8.6091	19	8.6095	18	1.3905	9.9996	87.67°	7	13.3
2.34°	8.6110	18	8.6113	19	1.3887	9.9996	87.66°	8	15.2
2.35°	8.6128	19	8.6132	19	1.3868	9.9996	87.65°	9	17.1
2.36°	8.6147	18	8.6150	18	1.3850	9.9996	87.64°		
2.37°	8.6165	18	8.6169	18	1.3831	9.9996	87.63°	1	1.8
2.38°	8.6183	18	8.6187	18	1.3813	9.9996	87.62°	2	3.6
2.39°	8.6201	19	8.6205	18	1.3795	9.9996	87.61°	3	5.4
2.40°	8.6220	18	8.6223	19	1.3777	9.9996	87.60°	4	7.2
2.41°	8.6238	18	8.6242	18	1.3758	9.9996	87.59°	5	9.0
2.42°	8.6256	18	8.6260	17	1.3740	9.9996	87.58°	6	10.8
2.43°	8.6274	17	8.6277	18	1.3723	9.9996	87.57°	7	12.6
2.44°	8.6291	18	8.6295	18	1.3705	9.9996	87.56°	8	14.4
2.45°	8.6309	18	8.6313	18	1.3687	9.9996	87.55°	9	16.2
2.46°	8.6327	17	8.6331	17	1.3669	9.9996	87.54°		
2.47°	8.6344	18	8.6348	18	1.3652	9.9996	87.53°	1	1.7
2.48°	8.6362	17	8.6366	18	1.3634	9.9996	87.52°	2	3.4
2.49°	8.6379	18	8.6384	17	1.3616	9.9996	87.51°	3	5.1
2.50°	8.6397	18	8.6401	17	1.3599	9.9996	87.50°	4	6.8
								5	8.5
								6	10.2
								7	11.9
								8	13.6
								9	15.3
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle		

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2°									
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos		Prop. Parts	
2.50°	8.6397		8.6401		1.3599	9.9996	87.50°	Extra digit	Difference
2.51°	8.6414	17	8.6418	17	1.3582	9.9996	87.49°		
2.52°	8.6431	17	8.6436	18	1.3564	9.9996	87.48°		
2.53°	8.6449	18	8.6453	17	1.3547	9.9996	87.47°		
2.54°	8.6466	17	8.6470	17	1.3530	9.9996	87.46°		
2.55°	8.6483	17	8.6487	17	1.3513	9.9996	87.45°		
2.56°	8.6500	17	8.6504	17	1.3496	9.9996	87.44°		
2.57°	8.6517	17	8.6521	17	1.3479	9.9996	87.43°		
2.58°	8.6534	17	8.6538	17	1.3462	9.9996	87.42°		
2.59°	8.6550	16	8.6555	17	1.3445	9.9996	87.41°		
2.60°	8.6567	17	8.6571	16	1.3429	9.9996	87.40°	1	18
2.61°	8.6584	17	8.6588	17	1.3412	9.9995	87.39°	2	1.8
2.62°	8.6600	16	8.6605	17	1.3395	9.9995	87.38°	3	3.6
2.63°	8.6617	17	8.6621	16	1.3379	9.9995	87.37°	4	5.4
2.64°	8.6633	16	8.6638	17	1.3362	9.9995	87.36°	5	7.2
2.65°	8.6650	16	8.6654	16	1.3346	9.9995	87.35°	6	9.0
2.66°	8.6666	16	8.6671	16	1.3329	9.9995	87.34°	7	10.8
2.67°	8.6682	17	8.6687	16	1.3313	9.9995	87.33°	8	12.6
2.68°	8.6699	16	8.6703	16	1.3297	9.9995	87.32°	9	14.4
2.69°	8.6715	16	8.6719	17	1.3281	9.9995	87.31°		16.2
2.70°	8.6731	16	8.6736	16	1.3264	9.9995	87.30°	1	1.7
2.71°	8.6747	16	8.6752	16	1.3248	9.9995	87.29°	2	3.4
2.72°	8.6763	16	8.6768	16	1.3232	9.9995	87.28°	3	5.1
2.73°	8.6779	16	8.6784	16	1.3216	9.9995	87.27°	4	6.8
2.74°	8.6795	15	8.6800	16	1.3200	9.9995	87.26°	5	8.5
2.75°	8.6810	16	8.6815	16	1.3185	9.9995	87.25°	6	10.2
2.76°	8.6826	16	8.6831	16	1.3169	9.9995	87.24°	7	11.9
2.77°	8.6842	16	8.6847	16	1.3153	9.9995	87.23°	8	13.6
2.78°	8.6858	15	8.6863	16	1.3137	9.9995	87.22°	9	15.3
2.79°	8.6873	16	8.6878	15	1.3122	9.9995	87.21°		
2.80°	8.6889	15	8.6894	15	1.3106	9.9995	87.20°	1	1.6
2.81°	8.6904	16	8.6909	16	1.3091	9.9995	87.19°	2	3.2
2.82°	8.6920	15	8.6925	16	1.3075	9.9995	87.18°	3	4.8
2.83°	8.6935	15	8.6940	15	1.3060	9.9995	87.17°	4	6.4
2.84°	8.6950	15	8.6956	15	1.3044	9.9995	87.16°	5	8.0
2.85°	8.6965	16	8.6971	15	1.3029	9.9995	87.15°	6	9.6
2.86°	8.6981	15	8.6986	15	1.3014	9.9995	87.14°	7	11.2
2.87°	8.6996	15	8.7001	16	1.2999	9.9995	87.13°	8	12.8
2.88°	8.7011	15	8.7016	15	1.2984	9.9995	87.12°	9	14.4
2.89°	8.7026	15	8.7031	15	1.2969	9.9994	87.11°		
2.90°	8.7041	15	8.7046	15	1.2954	9.9994	87.10°	1	1.5
2.91°	8.7056	15	8.7061	15	1.2939	9.9994	87.09°	2	3.0
2.92°	8.7071	15	8.7076	15	1.2924	9.9994	87.08°	3	4.5
2.93°	8.7086	14	8.7091	15	1.2909	9.9994	87.07°	4	6.0
2.94°	8.7100	15	8.7106	15	1.2894	9.9994	87.06°	5	7.5
2.95°	8.7115	15	8.7121	15	1.2879	9.9994	87.05°	6	9.0
2.96°	8.7130	14	8.7136	14	1.2864	9.9994	87.04°	7	10.5
2.97°	8.7144	15	8.7150	15	1.2850	9.9994	87.03°	8	12.0
2.98°	8.7159	15	8.7165	14	1.2835	9.9994	87.02°	9	13.5
2.99°	8.7174	14	8.7179	15	1.2821	9.9994	87.01°		
3.00°	8.7188		8.7194		1.2806	9.9994	87.00°		
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle		

3°							
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	Prop. Parts
3.00°	8.7188		8.7194		1.2806	9.9994	87.00°
3.01°	8.7202	14	8.7208	14	1.2792	9.9994	86.99°
3.02°	8.7217	15	8.7223	15	1.2777	9.9994	86.98°
3.03°	8.7231	14	8.7237	14	1.2763	9.9994	86.97°
3.04°	8.7245		8.7252		1.2748	9.9994	86.96°
3.05°	8.7260	15	8.7266	14	1.2734	9.9994	86.95°
3.06°	8.7274	14	8.7280	14	1.2720	9.9994	86.94°
3.07°	8.7288		8.7294		1.2706	9.9994	86.93°
3.08°	8.7302	14	8.7308	14	1.2692	9.9994	86.92°
3.09°	8.7316	14	8.7323	15	1.2677	9.9994	86.91°
3.10°	8.7330	14	8.7337	14	1.2663	9.9994	86.90°
3.11°	8.7344	14	8.7351	14	1.2649	9.9994	86.89°
3.12°	8.7358	14	8.7365	14	1.2635	9.9994	86.88°
3.13°	8.7372	14	8.7379	14	1.2621	9.9994	86.87°
3.14°	8.7386		8.7392		1.2608	9.9993	86.86°
3.15°	8.7400	14	8.7406	14	1.2594	9.9993	86.85°
3.16°	8.7413	14	8.7420	14	1.2580	9.9993	86.84°
3.17°	8.7427		8.7434		1.2566	9.9993	86.83°
3.18°	8.7441	14	8.7448	14	1.2552	9.9993	86.82°
3.19°	8.7454	13	8.7461	13	1.2539	9.9993	86.81°
3.20°	8.7468	14	8.7475	14	1.2525	9.9993	86.80°
3.21°	8.7482	13	8.7488	13	1.2512	9.9993	86.79°
3.22°	8.7495	13	8.7502	14	1.2498	9.9993	86.78°
3.23°	8.7508	13	8.7515	13	1.2485	9.9993	86.77°
3.24°	8.7522	14	8.7529	14	1.2471	9.9993	86.76°
3.25°	8.7535	13	8.7542	13	1.2458	9.9993	86.75°
3.26°	8.7549	14	8.7556	14	1.2444	9.9993	86.74°
3.27°	8.7562	13	8.7569	13	1.2431	9.9993	86.73°
3.28°	8.7575	13	8.7582	13	1.2418	9.9993	86.72°
3.29°	8.7588	13	8.7596	14	1.2404	9.9993	86.71°
3.30°	8.7602	14	8.7609	13	1.2391	9.9993	86.70°
3.31°	8.7615	13	8.7622	13	1.2378	9.9993	86.69°
3.32°	8.7628	13	8.7635	13	1.2365	9.9993	86.68°
3.33°	8.7641	13	8.7648	13	1.2352	9.9993	86.67°
3.34°	8.7654		8.7661		1.2339	9.9993	86.66°
3.35°	8.7667	13	8.7674	13	1.2326	9.9993	86.65°
3.36°	8.7680	13	8.7687	13	1.2313	9.9993	86.64°
3.37°	8.7693		8.7700		1.2300	9.9992	86.63°
3.38°	8.7705	12	8.7713	13	1.2287	9.9992	86.62°
3.39°	8.7718	13	8.7726	13	1.2274	9.9992	86.61°
3.40°	8.7731	13	8.7739	13	1.2261	9.9992	86.60°
3.41°	8.7744	12	8.7751	12	1.2249	9.9992	86.59°
3.42°	8.7756	13	8.7764	13	1.2236	9.9992	86.58°
3.43°	8.7769	13	8.7777	13	1.2223	9.9992	86.57°
3.44°	8.7782		8.7790		1.2210	9.9992	86.56°
3.45°	8.7794	12	8.7802	12	1.2198	9.9992	86.55°
3.46°	8.7807	13	8.7815	13	1.2185	9.9992	86.54°
3.47°	8.7819	12	8.7827	12	1.2173	9.9992	86.53°
3.48°	8.7832	13	8.7840	13	1.2160	9.9992	86.52°
3.49°	8.7844	12	8.7852	12	1.2148	9.9992	86.51°
3.50°	8.7857	13	8.7865	13	1.2135	9.9992	86.50°
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle
86°							

Extra digit

Difference

15

1	1.5
2	3.0
3	4.5
4	6.0
5	7.5
6	9.0
7	10.5
8	12.0
9	13.5

14

1	1.4
2	2.8
3	4.2
4	5.6
5	7.0
6	8.4
7	9.8
8	11.2
9	12.6

13

1	1.3
2	2.6
3	3.9
4	5.2
5	6.5
6	7.8
7	9.1
8	10.4
9	11.7

12

1	1.2
2	2.4
3	3.6
4	4.8
5	6.0
6	7.2
7	8.4
8	9.6
9	10.8

3°									
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos		Prop. Parts	
3.50°	8.7857		8.7865		1.2135	9.9992	86.50°	Extra digit	Difference
3.51°	8.7869	12	8.7877	12	1.2123	9.9992	86.49°		
3.52°	8.7881	12	8.7890	13	1.2110	9.9992	86.48°		
3.53°	8.7894	12	8.7902	12	1.2098	9.9992	86.47°		
3.54°	8.7906		8.7914		1.2086	9.9992	86.46°		
3.55°	8.7918	12	8.7927	13	1.2073	9.9992	86.45°		
3.56°	8.7930	12	8.7939	12	1.2061	9.9992	86.44°		
3.57°	8.7943	13	8.7951	12	1.2049	9.9992	86.43°		
3.58°	8.7955	12	8.7963	12	1.2037	9.9992	86.42°		
3.59°	8.7967	12	8.7975	12	1.2025	9.9991	86.41°		
3.60°	8.7979		8.7988		1.2012	9.9991	86.40°	1	1.3
3.61°	8.7991	12	8.8000	12	1.2000	9.9991	86.39°	2	2.6
3.62°	8.8003	12	8.8012	12	1.1988	9.9991	86.38°	3	3.9
3.63°	8.8015	12	8.8024	12	1.1976	9.9991	86.37°	4	5.2
3.64°	8.8027		8.8036		1.1964	9.9991	86.36°	5	6.5
3.65°	8.8039	12	8.8048	11	1.1952	9.9991	86.35°	6	7.8
3.66°	8.8051	11	8.8059	12	1.1941	9.9991	86.34°	7	9.1
3.67°	8.8062		8.8071		1.1929	9.9991	86.33°	8	10.4
3.68°	8.8074	12	8.8083	12	1.1917	9.9991	86.32°	9	11.7
3.69°	8.8086	12	8.8095	12	1.1905	9.9991	86.31°		
3.70°	8.8098		8.8107		1.1893	9.9991	86.30°		
3.71°	8.8109	12	8.8119	11	1.1881	9.9991	86.29°	1	1.2
3.72°	8.8121	12	8.8130	12	1.1870	9.9991	86.28°	2	2.4
3.73°	8.8133	11	8.8142	12	1.1858	9.9991	86.27°	3	3.6
3.74°	8.8144		8.8154		1.1846	9.9991	86.26°	4	4.8
3.75°	8.8156	12	8.8165	12	1.1835	9.9991	86.25°	5	6.0
3.76°	8.8168	11	8.8177	11	1.1823	9.9991	86.24°	6	7.2
3.77°	8.8179		8.8188		1.1812	9.9991	86.23°	7	8.4
3.78°	8.8191	12	8.8200	12	1.1800	9.9991	86.22°	8	9.6
3.79°	8.8202	11	8.8212	11	1.1788	9.9990	86.21°	9	10.8
3.80°	8.8213		8.8223		1.1777	9.9990	86.20°		
3.81°	8.8225	12	8.8234	11	1.1766	9.9990	86.19°	1	1.1
3.82°	8.8236	11	8.8246	12	1.1754	9.9990	86.18°	2	2.2
3.83°	8.8248	12	8.8257	12	1.1743	9.9990	86.17°	3	3.3
3.84°	8.8259		8.8269		1.1731	9.9990	86.16°	4	4.4
3.85°	8.8270	11	8.8280	11	1.1720	9.9990	86.15°	5	5.5
3.86°	8.8281	11	8.8291	11	1.1709	9.9990	86.14°	6	6.6
3.87°	8.8293	12	8.8302	12	1.1698	9.9990	86.13°	7	7.7
3.88°	8.8304	11	8.8314	11	1.1686	9.9990	86.12°	8	8.8
3.89°	8.8315	11	8.8325	11	1.1675	9.9990	86.11°	9	9.9
3.90°	8.8326		8.8336		1.1664	9.9990	86.10°		
3.91°	8.8337	11	8.8347	11	1.1653	9.9990	86.09°	1	1.0
3.92°	8.8348	11	8.8358	11	1.1642	9.9990	86.08°	2	2.0
3.93°	8.8359	11	8.8370	12	1.1630	9.9990	86.07°	3	3.0
3.94°	8.8370		8.8381		1.1619	9.9990	86.06°	4	4.0
3.95°	8.8381	11	8.8392	11	1.1608	9.9990	86.05°	5	5.0
3.96°	8.8392	11	8.8403	11	1.1597	9.9990	86.04°	6	6.0
3.97°	8.8403		8.8414		1.1586	9.9990	86.03°	7	7.0
3.98°	8.8414	11	8.8425	11	1.1575	9.9990	86.02°	8	8.0
3.99°	8.8425	11	8.8436	11	1.1564	9.9989	86.01°	9	9.0
4.00°	8.8436	10	8.8446	10	1.1554	9.9989	86.00°		
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle		

86°

TABLE III. LOGARITHMIC SINES

4°

Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	Prop. Parts		
4.00°	8.8436		8.8446		1.1554	9.9989	86.00°		
4.01°	8.8447	11	8.8457	11	1.1543	9.9989	85.99°	Extra digit	Difference
4.02°	8.8457	10	8.8468	11	1.1532	9.9989	85.98°		
4.03°	8.8468	11	8.8479	11	1.1521	9.9989	85.97°		
4.04°	8.8479		8.8490		1.1510	9.9989	85.96°		
4.05°	8.8490	11	8.8501	11	1.1499	9.9989	85.95°		
4.06°	8.8500	10	8.8511	10	1.1489	9.9989	85.94°		
4.07°	8.8511	11	8.8522	11	1.1478	9.9989	85.93°		
4.08°	8.8522	11	8.8533	11	1.1467	9.9989	85.92°		
4.09°	8.8532	10	8.8543	10	1.1457	9.9989	85.91°		
4.10°	8.8543	11	8.8554	11	1.1446	9.9989	85.90°		
4.11°	8.8553	10	8.8565	10	1.1435	9.9989	85.89°	1	1.1
4.12°	8.8564	11	8.8575	11	1.1425	9.9989	85.88°	2	2.2
4.13°	8.8575	11	8.8586	11	1.1414	9.9989	85.87°	3	3.3
4.14°	8.8585	10	8.8596	10	1.1404	9.9989	85.86°	4	4.4
4.15°	8.8595	11	8.8607	11	1.1393	9.9989	85.85°	5	5.5
4.16°	8.8606	10	8.8617	10	1.1383	9.9989	85.84°	6	6.6
4.17°	8.8616	11	8.8628	11	1.1372	9.9988	85.83°	7	7.7
4.18°	8.8627	10	8.8638	10	1.1362	9.9988	85.82°	8	8.8
4.19°	8.8637	11	8.8649	11	1.1351	9.9988	85.81°	9	9.9
4.20°	8.8647	10	8.8659	10	1.1341	9.9988	85.80°		
4.21°	8.8658	11	8.8669	11	1.1331	9.9988	85.79°	1	10
4.22°	8.8668	10	8.8680	10	1.1320	9.9988	85.78°		
4.23°	8.8678	11	8.8690	11	1.1310	9.9988	85.77°		
4.24°	8.8688	10	8.8700	10	1.1300	9.9988	85.76°		
4.25°	8.8699	11	8.8711	11	1.1289	9.9988	85.75°		
4.26°	8.8709	10	8.8721	10	1.1279	9.9988	85.74°		
4.27°	8.8719	11	8.8731	11	1.1269	9.9988	85.73°		
4.28°	8.8729	10	8.8741	10	1.1259	9.9988	85.72°		
4.29°	8.8739	11	8.8751	11	1.1249	9.9988	85.71°		
4.30°	8.8749	10	8.8762	10	1.1238	9.9988	85.70°		
4.31°	8.8759	11	8.8772	11	1.1228	9.9988	85.69°	1	1.0
4.32°	8.8769	10	8.8782	10	1.1218	9.9988	85.68°	2	2.0
4.33°	8.8780	11	8.8792	11	1.1208	9.9988	85.67°	3	3.0
4.34°	8.8790	10	8.8802	10	1.1198	9.9988	85.66°	4	4.0
4.35°	8.8799	9	8.8812	9	1.1188	9.9987	85.65°	5	5.0
4.36°	8.8809	10	8.8822	10	1.1178	9.9987	85.64°	6	6.0
4.37°	8.8819	11	8.8832	11	1.1168	9.9987	85.63°	7	7.0
4.38°	8.8829	10	8.8842	10	1.1158	9.9987	85.62°	8	8.0
4.39°	8.8839	11	8.8852	11	1.1148	9.9987	85.61°	9	9.0
4.40°	8.8849	10	8.8862	10	1.1138	9.9987	85.60°		
4.41°	8.8859	11	8.8872	11	1.1128	9.9987	85.59°	1	9
4.42°	8.8869	10	8.8882	10	1.1118	9.9987	85.58°		
4.43°	8.8878	9	8.8891	9	1.1109	9.9987	85.57°		
4.44°	8.8888	10	8.8901	10	1.1099	9.9987	85.56°		
4.45°	8.8898	11	8.8911	11	1.1089	9.9987	85.55°		
4.46°	8.8908	10	8.8921	10	1.1079	9.9987	85.54°		
4.47°	8.8917	9	8.8931	9	1.1069	9.9987	85.53°		
4.48°	8.8927	10	8.8940	10	1.1060	9.9987	85.52°		
4.49°	8.8937	11	8.8950	11	1.1050	9.9987	85.51°		
4.50°	8.8946	10	8.8960	10	1.1040	9.9987	85.50°		
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle		

85°

4°							
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	Prop. Parts
4.50°	8.8946		8.8960		1.1040	9.9987	85.50°
4.51°	8.8956	10	8.8970	10	1.1030	9.9987	85.49°
4.52°	8.8966	10	8.8979	9	1.1021	9.9986	85.48°
4.53°	8.8975	9	8.8989	10	1.1011	9.9986	85.47°
4.54°	8.8985	10	8.8998	9	1.1002	9.9986	85.46°
4.55°	8.8994	9	8.9008	10	1.0992	9.9986	85.45°
4.56°	8.9004	9	8.9018	10	1.0982	9.9986	85.44°
4.57°	8.9013	10	8.9027	9	1.0973	9.9986	85.43°
4.58°	8.9023	9	8.9037	10	1.0963	9.9986	85.42°
4.59°	8.9032	9	8.9046	9	1.0954	9.9986	85.41°
4.60°	8.9042	10	8.9056	10	1.0944	9.9986	85.40°
4.61°	8.9051	9	8.9065	9	1.0935	9.9986	85.39°
4.62°	8.9060	9	8.9075	10	1.0925	9.9986	85.38°
4.63°	8.9070	10	8.9084	9	1.0916	9.9986	85.37°
4.64°	8.9079	9	8.9093	10	1.0907	9.9986	85.36°
4.65°	8.9089	10	8.9103	9	1.0897	9.9986	85.35°
4.66°	8.9098	9	8.9112	10	1.0888	9.9986	85.34°
4.67°	8.9107	9	8.9122	9	1.0878	9.9986	85.33°
4.68°	8.9116	10	8.9131	9	1.0869	9.9985	85.32°
4.69°	8.9126	9	8.9140	10	1.0860	9.9985	85.31°
4.70°	8.9135	9	8.9150	9	1.0850	9.9985	85.30°
4.71°	8.9144	9	8.9159	9	1.0841	9.9985	85.29°
4.72°	8.9153	9	8.9168	9	1.0832	9.9985	85.28°
4.73°	8.9162	10	8.9177	9	1.0823	9.9985	85.27°
4.74°	8.9172	9	8.9186	10	1.0814	9.9985	85.26°
4.75°	8.9181	9	8.9196	9	1.0804	9.9985	85.25°
4.76°	8.9190	9	8.9205	9	1.0795	9.9985	85.24°
4.77°	8.9199	9	8.9214	9	1.0786	9.9985	85.23°
4.78°	8.9208	9	8.9223	9	1.0777	9.9985	85.22°
4.79°	8.9217	9	8.9232	9	1.0768	9.9985	85.21°
4.80°	8.9226	9	8.9241	9	1.0759	9.9985	85.20°
4.81°	8.9235	9	8.9250	10	1.0750	9.9985	85.19°
4.82°	8.9244	9	8.9260	9	1.0740	9.9985	85.18°
4.83°	8.9253	9	8.9269	9	1.0731	9.9985	85.17°
4.84°	8.9262	9	8.9278	9	1.0722	9.9984	85.16°
4.85°	8.9271	9	8.9287	9	1.0713	9.9984	85.15°
4.86°	8.9280	9	8.9296	9	1.0704	9.9984	85.14°
4.87°	8.9289	9	8.9305	8	1.0695	9.9984	85.13°
4.88°	8.9298	9	8.9313	9	1.0687	9.9984	85.12°
4.89°	8.9307	8	8.9322	9	1.0678	9.9984	85.11°
4.90°	8.9315	9	8.9331	9	1.0669	9.9984	85.10°
4.91°	8.9324	9	8.9340	9	1.0660	9.9984	85.09°
4.92°	8.9333	9	8.9349	9	1.0651	9.9984	85.08°
4.93°	8.9342	9	8.9358	9	1.0642	9.9984	85.07°
4.94°	8.9351	8	8.9367	9	1.0633	9.9984	85.06°
4.95°	8.9359	9	8.9376	8	1.0624	9.9984	85.05°
4.96°	8.9368	9	8.9384	9	1.0616	9.9984	85.04°
4.97°	8.9377	9	8.9393	9	1.0607	9.9984	85.03°
4.98°	8.9386	8	8.9402	9	1.0598	9.9984	85.02°
4.99°	8.9394	8	8.9411	9	1.0589	9.9984	85.01°
5.00°	8.9403	9	8.9420	9	1.0580	9.9983	85.00°
	log cos	diff.	log cot	com. diff.	log tan	log sin	Angle

85°

TABLE III. LOGARITHMIC SINES

5°-10°

Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	diff.	Prop. Parts							
5.0°	8.9403		8.9420		1.0580	9.9983		85.0°	Extra digit	Difference					
5.1°	8.9489	86	8.9506	86	1.0494	9.9983	0	84.9°							
5.2°	8.9573	82	8.9591	85	1.0409	9.9982	1	84.8°							
5.3°	8.9655	84	8.9674	83	1.0326	9.9981	1	84.7°							
		81		82			0								
5.4°	8.9736		8.9756		1.0244	9.9981	1	84.6°							
5.5°	8.9816	80	8.9836	80	1.0164	9.9980	1	84.5°							
5.6°	8.9894	78	8.9915	79	1.0085	9.9979	1	84.4°							
		76		77			1								
5.7°	8.9970		8.9992		1.0008	9.9978	0	84.3°	1	62	6.2	6.1	6.0		
5.8°	9.0046	76	9.0068	76	0.9932	9.9978	1	84.2°	2	12.4	12.2	12.0	12.0		
5.9°	9.0120	74	9.0143	75	0.9857	9.9977	1	84.1°	3	18.6	18.3	18.0	18.0		
		72		73			1		4	24.8	24.4	24.0	24.0		
6.0°	9.0192		9.0216		0.9784	9.9976	1	84.0°	5	31.0	30.5	30.0	30.0		
6.1°	9.0264	70	9.0289	71	0.9711	9.9975	1	83.9°	6	37.2	36.6	36.0	36.0		
6.2°	9.0334	72	9.0360	73	0.9640	9.9975	0	83.8°	7	43.4	42.7	42.0	42.0		
6.3°	9.0403	69	9.0430	70	0.9570	9.9974	1	83.7°	8	49.6	48.8	48.0	48.0		
		68		69			1		9	55.8	54.9	54.0	54.0		
6.4°	9.0472		9.0499		0.9501	9.9973	1	83.6°		59	5.9	5.8	5.7		
6.5°	9.0539	67	9.0567	68	0.9433	9.9972	1	83.5°	1	11.8	11.6	11.4	11.4		
6.6°	9.0605	66	9.0633	66	0.9367	9.9971	1	83.4°	2	17.7	17.4	17.1	17.1		
		65		66			1		3	23.6	23.2	22.8	22.8		
6.7°	9.0670		9.0699		0.9301	9.9970	1	83.3°	4	29.5	29.0	28.5	28.5		
6.8°	9.0734	64	9.0764	65	0.9236	9.9969	1	83.2°	5	35.4	34.8	34.2	34.2		
6.9°	9.0797	63	9.0828	64	0.9172	9.9968	1	83.1°	6	41.3	40.6	39.9	39.9		
		62		63			0		7	47.2	46.4	45.6	45.6		
7.0°	9.0859		9.0891		0.9109	9.9968	1	83.0°	8	53.1	52.2	51.3	51.3		
		61		62			1		9						
7.1°	9.0920		9.0954		0.9046	9.9967	1	82.9°		56	5.6	5.5	5.4		
7.2°	9.0981	61	9.1015	61	0.8985	9.9966	1	82.8°	1	11.2	11.0	10.8	10.8		
7.3°	9.1040	59	9.1076	59	0.8924	9.9965	1	82.7°	2	16.8	16.5	16.2	16.2		
		58		59			1		3	22.4	22.0	21.6	21.6		
7.4°	9.1099		9.1135		0.8865	9.9964	1	82.6°	4	28.0	27.5	27.0	27.0		
7.5°	9.1157	58	9.1194	58	0.8806	9.9963	1	82.5°	5	33.6	33.0	32.4	32.4		
7.6°	9.1214	57	9.1252	58	0.8748	9.9962	1	82.4°	6	39.2	38.5	37.8	37.8		
		56		57			1		7	44.8	44.0	43.2	43.2		
7.7°	9.1271		9.1310		0.8690	9.9961	1	82.3°	8	50.4	49.5	48.6	48.6		
7.8°	9.1326	55	9.1367	56	0.8633	9.9960	1	82.2°	9						
7.9°	9.1381	55	9.1423	55	0.8577	9.9959	1	82.1°		53	5.3	5.2	5.1		
		54		55			1		1	10.8	10.4	10.2	10.2		
8.0°	9.1436		9.1478		0.8522	9.9958	2	82.0°	2	15.9	15.6	15.3	15.3		
8.1°	9.1489	53	9.1533	53	0.8467	9.9956	1	81.9°	3	21.2	20.8	20.4	20.4		
8.2°	9.1542	52	9.1587	54	0.8413	9.9955	1	81.8°	4	26.5	26.0	25.5	25.5		
8.3°	9.1594	52	9.1640	53	0.8360	9.9954	1	81.7°	5	31.8	31.2	30.6	30.6		
		51		52			1		6	37.1	36.4	35.7	35.7		
8.4°	9.1646		9.1693		0.8307	9.9953	1	81.6°	7	42.4	41.6	40.8	40.8		
8.5°	9.1697	51	9.1745	52	0.8255	9.9952	1	81.5°	8	47.7	46.8	45.9	45.9		
8.6°	9.1747	50	9.1797	51	0.8203	9.9951	1	81.4°	9						
		50		51			1			50	4.7	4.6	4.5		
8.7°	9.1797		9.1848		0.8152	9.9950	1	81.3°	1	10.0	9.8	9.6	9.6		
8.8°	9.1847	50	9.1898	50	0.8102	9.9949	2	81.2°	2	15.0	14.7	14.4	14.4		
8.9°	9.1895	48	9.1948	49	0.8052	9.9947	1	81.1°	3	20.0	19.6	19.2	19.2		
		48		49			1		4	25.0	24.5	24.0	24.0		
9.0°	9.1943		9.1997		0.8003	9.9946	1	81.0°	5	30.0	29.4	28.8	28.8		
9.1°	9.1991	48	9.2046	48	0.7954	9.9945	1	80.9°	6	35.0	34.3	33.6	33.6		
9.2°	9.2038	47	9.2094	48	0.7906	9.9944	1	80.8°	7	40.0	39.2	38.4	38.4		
9.3°	9.2085	46	9.2142	47	0.7858	9.9943	2	80.7°	8	45.0	44.1	43.2	43.2		
		45		46			1		9						
9.4°	9.2131		9.2189		0.7811	9.9941	1	80.6°		47	4.7	4.6	4.5		
9.5°	9.2176	45	9.2236	47	0.7764	9.9940	1	80.5°	1	9.4	9.2	9.0	9.0		
9.6°	9.2221	45	9.2282	46	0.7718	9.9939	2	80.4°	2	14.1	13.8	13.5	13.5		
		45		46			1		3	18.8	18.4	18.0	18.0		
9.7°	9.2266		9.2328		0.7672	9.9937	1	80.3°	4	23.5	23.0	22.5	22.5		
9.8°	9.2310	44	9.2374	46	0.7626	9.9936	1	80.2°	5	28.2	27.6	27.0	27.0		
9.9°	9.2353	43	9.2419	45	0.7581	9.9935	1	80.1°	6	32.9	32.2	31.5	31.5		
		44		44			1		7	37.6	36.8	36.0	36.0		
10.0°	9.2397		9.2463		0.7537	9.9934		80.0°	8	42.3	41.4	40.5	40.5		
									9						
	log cos	diff.	log cot	com. diff.	log tan	log sin	diff.	Angle							

80°-85°

10°-15°										
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	diff.	Prop. Parts		
10.0°	9.2397		9.2463		0.7537	9.9934		80.0°	Extra digit	Difference
10.1°	9.2439	42	9.2507	44	0.7493	9.9932	2	79.9°		
10.2°	9.2482	43	9.2551	44	0.7449	9.9931	1	79.8°		
10.3°	9.2524	42	9.2594	43	0.7406	9.9929	2	79.7°		
10.4°	9.2565	41	9.2637	43	0.7363	9.9928	1	79.6°		
10.5°	9.2606	41	9.2680	42	0.7320	9.9927	2	79.5°		
10.6°	9.2647	40	9.2722	42	0.7278	9.9925	1	79.4°		
10.7°	9.2687	40	9.2764	41	0.7236	9.9924	2	79.3°		
10.8°	9.2727	40	9.2805	41	0.7195	9.9922	1	79.2°		
10.9°	9.2767	39	9.2846	41	0.7154	9.9921	2	79.1°		
11.0°	9.2806	39	9.2887	40	0.7113	9.9919	1	79.0°		
11.1°	9.2845	38	9.2927	40	0.7073	9.9918	2	78.9°		
11.2°	9.2883	38	9.2967	39	0.7033	9.9916	1	78.8°		
11.3°	9.2921	38	9.3006	40	0.6994	9.9915	2	78.7°		
11.4°	9.2959	38	9.3046	39	0.6954	9.9913	1	78.6°		
11.5°	9.2997	37	9.3085	38	0.6915	9.9912	2	78.5°		
11.6°	9.3034	36	9.3123	39	0.6877	9.9910	1	78.4°		
11.7°	9.3070	37	9.3162	38	0.6838	9.9909	2	78.3°		
11.8°	9.3107	36	9.3200	37	0.6800	9.9907	1	78.2°		
11.9°	9.3143	36	9.3237	38	0.6763	9.9906	2	78.1°		
12.0°	9.3179	35	9.3275	37	0.6725	9.9904	1	78.0°		
12.1°	9.3214	36	9.3312	37	0.6688	9.9902	2	77.9°		
12.2°	9.3250	34	9.3349	36	0.6651	9.9901	1	77.8°		
12.3°	9.3284	35	9.3385	37	0.6615	9.9899	2	77.7°		
12.4°	9.3319	34	9.3422	36	0.6578	9.9897	1	77.6°		
12.5°	9.3353	34	9.3458	35	0.6542	9.9896	2	77.5°		
12.6°	9.3387	34	9.3493	36	0.6507	9.9894	1	77.4°		
12.7°	9.3421	34	9.3529	35	0.6471	9.9892	2	77.3°		
12.8°	9.3455	33	9.3564	35	0.6436	9.9891	1	77.2°		
12.9°	9.3488	33	9.3599	35	0.6401	9.9889	2	77.1°		
13.0°	9.3521	33	9.3634	34	0.6366	9.9887	1	77.0°		
13.1°	9.3554	32	9.3668	34	0.6332	9.9885	2	76.9°		
13.2°	9.3586	32	9.3702	34	0.6298	9.9884	1	76.8°		
13.3°	9.3618	32	9.3736	34	0.6264	9.9882	2	76.7°		
13.4°	9.3650	32	9.3770	34	0.6230	9.9880	1	76.6°		
13.5°	9.3682	31	9.3804	33	0.6196	9.9878	2	76.5°		
13.6°	9.3713	32	9.3837	33	0.6163	9.9876	1	76.4°		
13.7°	9.3745	30	9.3870	33	0.6130	9.9875	2	76.3°		
13.8°	9.3775	31	9.3903	32	0.6097	9.9873	1	76.2°		
13.9°	9.3806	31	9.3935	33	0.6065	9.9871	2	76.1°		
14.0°	9.3837	30	9.3968	32	0.6032	9.9869	1	76.0°		
14.1°	9.3867	30	9.4000	32	0.6000	9.9867	2	75.9°		
14.2°	9.3897	30	9.4032	32	0.5968	9.9865	1	75.8°		
14.3°	9.3927	30	9.4064	31	0.5936	9.9863	2	75.7°		
14.4°	9.3957	29	9.4095	32	0.5905	9.9861	1	75.6°		
14.5°	9.3986	29	9.4127	31	0.5873	9.9859	2	75.5°		
14.6°	9.4015	29	9.4158	31	0.5842	9.9857	1	75.4°		
14.7°	9.4044	29	9.4189	31	0.5811	9.9855	2	75.3°		
14.8°	9.4073	29	9.4220	30	0.5780	9.9853	1	75.2°		
14.9°	9.4102	28	9.4250	31	0.5750	9.9851	2	75.1°		
15.0°	9.4130		9.4281		0.5719	9.9849		75.0°		
	log cos	diff.	log cot	com. diff.	log tan	log sin	diff.	Angle		

75°-80°									
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TABLE III. LOGARITHMIC SINES

15°-20°

Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	diff.		Prop. Parts		
									Extra digit	Difference	
15.0°	9.4130		9.4281		0.5719	9.9849		75.0°			
15.1°	9.4158	28	9.4311	30	0.5689	9.9847	2	74.9°			
15.2°	9.4186	28	9.4341	30	0.5659	9.9845	2	74.8°			
15.3°	9.4214	28	9.4371	29	0.5629	9.9843	2	74.7°			
15.4°	9.4242		9.4400		0.5600	9.9841		74.6°			
15.5°	9.4269	27	9.4430	30	0.5570	9.9839	2	74.5°			
15.6°	9.4296	27	9.4459	29	0.5541	9.9837	2	74.4°			
15.7°	9.4323		9.4488		0.5512	9.9835		74.3°			
15.8°	9.4350	27	9.4517	29	0.5483	9.9833	2	74.2°			
15.9°	9.4377	26	9.4546	29	0.5454	9.9831	3	74.1°			
16.0°	9.4403		9.4575		0.5425	9.9828		74.0°			
16.1°	9.4430		9.4603	28	0.5397	9.9826	2	73.9°			
16.2°	9.4456	26	9.4632	29	0.5368	9.9824	2	73.8°			
16.3°	9.4482	26	9.4660	28	0.5340	9.9822	2	73.7°			
16.4°	9.4508		9.4688		0.5312	9.9820		73.6°			
16.5°	9.4533	25	9.4716	28	0.5284	9.9817	3	73.5°			
16.6°	9.4559	26	9.4744	27	0.5256	9.9815	2	73.4°			
16.7°	9.4584		9.4771		0.5229	9.9813		73.3°			
16.8°	9.4609	25	9.4799	28	0.5201	9.9811	3	73.2°			
16.9°	9.4634	25	9.4826	27	0.5174	9.9808	3	73.1°			
17.0°	9.4659		9.4853		0.5147	9.9806		73.0°			
17.1°	9.4684		9.4880		0.5120	9.9804		72.9°			
17.2°	9.4709	25	9.4907	27	0.5093	9.9801	3	72.8°			
17.3°	9.4733	24	9.4934	27	0.5066	9.9799	2	72.7°			
17.4°	9.4757		9.4961		0.5039	9.9797		72.6°			
17.5°	9.4781	24	9.4987	27	0.5013	9.9794	2	72.5°			
17.6°	9.4805	24	9.5014	26	0.4986	9.9792	3	72.4°			
17.7°	9.4829		9.5040		0.4960	9.9789		72.3°			
17.8°	9.4853	23	9.5066	26	0.4934	9.9787	2	72.2°			
17.9°	9.4876	24	9.5092	26	0.4908	9.9785	3	72.1°			
18.0°	9.4900		9.5118		0.4882	9.9782		72.0°			
18.1°	9.4923	23	9.5143	25	0.4857	9.9780	3	71.9°			
18.2°	9.4946	23	9.5169	26	0.4831	9.9777	2	71.8°			
18.3°	9.4969	23	9.5195	25	0.4805	9.9775	3	71.7°			
18.4°	9.4992		9.5220		0.4780	9.9772		71.6°			
18.5°	9.5015	23	9.5245	25	0.4755	9.9770	3	71.5°			
18.6°	9.5037	23	9.5270	25	0.4730	9.9767	3	71.4°			
18.7°	9.5060		9.5295		0.4705	9.9764		71.3°			
18.8°	9.5082	22	9.5320	25	0.4680	9.9762	2	71.2°			
18.9°	9.5104	22	9.5345	25	0.4655	9.9759	2	71.1°			
19.0°	9.5126		9.5370		0.4630	9.9757		71.0°			
19.1°	9.5148	22	9.5394	24	0.4606	9.9754	3	70.9°			
19.2°	9.5170	22	9.5419	24	0.4581	9.9751	3	70.8°			
19.3°	9.5192	21	9.5443	24	0.4557	9.9749	3	70.7°			
19.4°	9.5213		9.5467		0.4533	9.9746		70.6°			
19.5°	9.5235	21	9.5491	24	0.4509	9.9743	3	70.5°			
19.6°	9.5256	22	9.5516	23	0.4484	9.9741	3	70.4°			
19.7°	9.5278		9.5539		0.4461	9.9738		70.3°			
19.8°	9.5299	21	9.5563	24	0.4437	9.9735	3	70.2°			
19.9°	9.5320	21	9.5587	24	0.4413	9.9733	2	70.1°			
20.0°	9.5341		9.5611		0.4389	9.9730		70.0°			
	log cos	diff.	log cot	com. diff.	log tan	log sin	diff.	Angle			

70°-75°

20°-25°

Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	diff.	Prop. Parts			
20.0°	9.5341		9.5611		0.4389	9.9730		70.0°	Extra digit	Difference	
20.1°	9.5361	20	9.5634	23	0.4366	9.9727	3	69.9°			
20.2°	9.5382	21	9.5658	24	0.4342	9.9724	3	69.8°			
20.3°	9.5402	21	9.5681	23	0.4319	9.9722	2	69.7°			
20.4°	9.5423	20	9.5704	23	0.4296	9.9719	3	69.6°			
20.5°	9.5443	20	9.5727	23	0.4273	9.9716	3	69.5°			
20.6°	9.5463	20	9.5750	23	0.4250	9.9713	3	69.4°			
20.7°	9.5484	21	9.5773	23	0.4227	9.9710	3	69.3°			
20.8°	9.5504	19	9.5796	23	0.4204	9.9707	3	69.2°			
20.9°	9.5523	20	9.5819	23	0.4181	9.9704	2	69.1°			
21.0°	9.5543	20	9.5842	22	0.4158	9.9702	3	69.0°	1	2.3	2.2
21.1°	9.5563	20	9.5864	23	0.4136	9.9699	3	68.9°	2	4.6	4.4
21.2°	9.5583	19	9.5887	22	0.4113	9.9696	3	68.8°	3	6.9	6.6
21.3°	9.5602	19	9.5909	22	0.4091	9.9693	3	68.7°	4	9.2	8.8
21.4°	9.5621	19	9.5932	22	0.4068	9.9690	3	68.6°	5	11.5	11.0
21.5°	9.5641	20	9.5954	22	0.4046	9.9687	3	68.5°	6	13.8	13.2
21.6°	9.5660	19	9.5976	22	0.4024	9.9684	3	68.4°	7	16.1	15.4
21.7°	9.5679	19	9.5998	22	0.4002	9.9681	3	68.3°	8	18.4	17.6
21.8°	9.5698	19	9.6020	22	0.3980	9.9678	3	68.2°	9	20.7	19.8
21.9°	9.5717	19	9.6042	22	0.3958	9.9675	3	68.1°			
22.0°	9.5736	18	9.6064	22	0.3936	9.9672	3	68.0°			
22.1°	9.5754	19	9.6086	22	0.3914	9.9669	3	67.9°	1	2.1	2.0
22.2°	9.5773	19	9.6108	22	0.3892	9.9666	3	67.8°	2	4.2	4.0
22.3°	9.5792	18	9.6129	21	0.3871	9.9662	4	67.7°	3	6.3	6.0
22.4°	9.5810	18	9.6151	21	0.3849	9.9659	3	67.6°	4	8.4	8.0
22.5°	9.5828	19	9.6172	22	0.3828	9.9656	3	67.5°	5	10.5	10.0
22.6°	9.5847	18	9.6194	21	0.3806	9.9653	3	67.4°	6	12.6	12.0
22.7°	9.5865	18	9.6215	21	0.3785	9.9650	3	67.3°	7	14.7	14.0
22.8°	9.5883	18	9.6236	21	0.3764	9.9647	3	67.2°	8	16.8	16.0
22.9°	9.5901	18	9.6257	22	0.3743	9.9643	3	67.1°	9	18.9	18.0
23.0°	9.5919	18	9.6279	21	0.3721	9.9640	3	67.0°			
23.1°	9.5937	17	9.6300	20	0.3700	9.9637	3	66.9°	1	1.9	1.8
23.2°	9.5954	18	9.6321	21	0.3679	9.9634	4	66.8°	2	3.8	3.6
23.3°	9.5972	18	9.6341	21	0.3659	9.9631	3	66.7°	3	5.7	5.4
23.4°	9.5990	17	9.6362	21	0.3638	9.9627	3	66.6°	4	7.6	7.2
23.5°	9.6007	17	9.6383	21	0.3617	9.9624	3	66.5°	5	9.5	9.0
23.6°	9.6024	18	9.6404	20	0.3596	9.9621	4	66.4°	6	11.4	10.8
23.7°	9.6042	17	9.6424	21	0.3576	9.9617	3	66.3°	7	13.3	12.6
23.8°	9.6059	17	9.6445	20	0.3555	9.9614	3	66.2°	8	15.2	14.4
23.9°	9.6076	17	9.6465	21	0.3535	9.9611	4	66.1°	9	17.1	16.2
24.0°	9.6093	17	9.6486	20	0.3514	9.9607	3	66.0°			
24.1°	9.6110	17	9.6506	21	0.3494	9.9604	3	65.9°	1	1.7	1.6
24.2°	9.6127	17	9.6527	20	0.3473	9.9601	3	65.8°	2	3.4	3.2
24.3°	9.6144	17	9.6547	20	0.3453	9.9597	4	65.7°	3	5.1	4.8
24.4°	9.6161	16	9.6567	20	0.3433	9.9594	4	65.6°	4	6.8	6.4
24.5°	9.6177	17	9.6587	20	0.3413	9.9590	3	65.5°	5	8.5	8.0
24.6°	9.6194	16	9.6607	20	0.3393	9.9587	4	65.4°	6	10.2	9.6
24.7°	9.6210	17	9.6627	20	0.3373	9.9583	3	65.3°	7	11.9	11.2
24.8°	9.6227	17	9.6647	20	0.3353	9.9580	3	65.2°	8	13.6	12.8
24.9°	9.6243	16	9.6667	20	0.3333	9.9576	4	65.1°	9	15.3	14.4
25.0°	9.6259	16	9.6687	20	0.3313	9.9573	3	65.0°			
	log cos	diff.	log cot	com. diff.	log tan	log sin	diff.	Angle			

65°-70°

30°-35°									
Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	diff.	Prop. Parts	
30.0°	9.6990		9.7614		0.2386	9.9375		Extra digit	Difference
30.1°	9.7003	13	9.7632	18	0.2368	9.9371	4		
30.2°	9.7016	13	9.7649	17	0.2351	9.9367	4		
30.3°	9.7029	13	9.7667	18	0.2333	9.9362	5		
		13		17			4		
30.4°	9.7042		9.7684		0.2316	9.9358			
30.5°	9.7055	13	9.7701	17	0.2299	9.9353	5		
30.6°	9.7068	13	9.7719	18	0.2281	9.9349	4		
		12		17			5		
30.7°	9.7080		9.7736		0.2264	9.9344			
30.8°	9.7093	13	9.7753	17	0.2247	9.9340	4		
30.9°	9.7106	13	9.7771	18	0.2229	9.9335	5		
		12		17			4		
31.0°	9.7118		9.7788		0.2212	9.9331		59.0°	
31.1°	9.7131	13	9.7805	17	0.2195	9.9326	5		
31.2°	9.7144	12	9.7822	17	0.2178	9.9322	4		
31.3°	9.7156	12	9.7839	17	0.2161	9.9317	5		
		12		17			5		
31.4°	9.7168		9.7856		0.2144	9.9312		58.6°	
31.5°	9.7181	13	9.7873	17	0.2127	9.9308	4		
31.6°	9.7193	12	9.7890	17	0.2110	9.9303	5		
		12		17			5		
31.7°	9.7205		9.7907		0.2093	9.9298		58.3°	
31.8°	9.7218	13	9.7924	17	0.2076	9.9294	4		
31.9°	9.7230	12	9.7941	17	0.2059	9.9289	5		
		12		17			5		
32.0°	9.7242		9.7958		0.2042	9.9284		58.0°	
32.1°	9.7254	12	9.7975	17	0.2025	9.9279	5		
32.2°	9.7266	12	9.7992	17	0.2008	9.9275	4		
32.3°	9.7278	12	9.8008	16	0.1992	9.9270	5		
		12		17			5		
32.4°	9.7290		9.8025		0.1975	9.9265		57.6°	
32.5°	9.7302	12	9.8042	17	0.1958	9.9260	5		
32.6°	9.7314	12	9.8059	17	0.1941	9.9255	5		
		12		16			4		
32.7°	9.7326		9.8075		0.1925	9.9251		57.3°	
32.8°	9.7338	11	9.8092	17	0.1908	9.9246	5		
32.9°	9.7349	11	9.8109	17	0.1891	9.9241	5		
		12		16			5		
33.0°	9.7361		9.8125		0.1875	9.9236		57.0°	
33.1°	9.7373	12	9.8142	17	0.1858	9.9231	5		
33.2°	9.7384	11	9.8158	16	0.1842	9.9226	5		
33.3°	9.7396	11	9.8175	16	0.1825	9.9221	5		
		11		16			5		
33.4°	9.7407		9.8191		0.1809	9.9216		56.6°	
33.5°	9.7419	12	9.8208	17	0.1792	9.9211	5		
33.6°	9.7430	11	9.8224	16	0.1776	9.9206	5		
		11		17			5		
33.7°	9.7442		9.8241		0.1759	9.9201		56.3°	
33.8°	9.7453	11	9.8257	16	0.1743	9.9196	5		
33.9°	9.7464	11	9.8274	17	0.1726	9.9191	5		
		12		16			5		
34.0°	9.7476		9.8290		0.1710	9.9186		56.0°	
34.1°	9.7487	11	9.8306	16	0.1694	9.9181	5		
34.2°	9.7498	11	9.8323	17	0.1677	9.9175	6		
34.3°	9.7509	11	9.8339	16	0.1661	9.9170	5		
		11		16			5		
34.4°	9.7520		9.8355		0.1645	9.9165		55.6°	
34.5°	9.7531	11	9.8371	16	0.1629	9.9160	5		
34.6°	9.7542	11	9.8388	16	0.1612	9.9155	5		
		11		16			6		
34.7°	9.7553		9.8404		0.1596	9.9149		55.3°	
34.8°	9.7564	11	9.8420	16	0.1580	9.9144	5		
34.9°	9.7575	11	9.8436	16	0.1564	9.9139	5		
		11		16			5		
35.0°	9.7586		9.8452		0.1548	9.9134		55.0°	
	log cos	diff.	log cot	com. diff.	log tan	log sin	diff.	Angle	

55°-60°									
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TABLE III. LOGARITHMIC SINES

35°-40°

Angle	log sin	diff.	log tan	com. diff.	log cot	log cos	diff.		Prop. Parts		
35.0°	9.7586		9.8452		0.1548	9.9134		55.0°	Extra digit	Difference	
35.1°	9.7597	11	9.8468	16	0.1532	9.9128	6	54.9°			
35.2°	9.7607	10	9.8484	16	0.1516	9.9123	5	54.8°			
35.3°	9.7618	11	9.8501	17	0.1499	9.9118	5	54.7°			
35.4°	9.7629		9.8517	16	0.1483	9.9112	6	54.6°			
35.5°	9.7640	11	9.8533	16	0.1467	9.9107	5	54.5°			
35.6°	9.7650	10	9.8549	16	0.1451	9.9101	6	54.4°			
35.7°	9.7661		9.8565	16	0.1435	9.9096	5	54.3°			
35.8°	9.7671	10	9.8581	16	0.1419	9.9091	5	54.2°			
35.9°	9.7682	11	9.8597	16	0.1403	9.9085	6	54.1°			
36.0°	9.7692	10	9.8613	16	0.1387	9.9080	5	54.0°	1	1.7	1.6
36.1°	9.7703		9.8629	16	0.1371	9.9074	6	53.9°	2	3.4	3.2
36.2°	9.7713	10	9.8644	15	0.1356	9.9069	5	53.8°	3	5.1	4.8
36.3°	9.7723	10	9.8660	16	0.1340	9.9063	6	53.7°	4	6.8	6.4
36.4°	9.7734	11	9.8676	16	0.1324	9.9057	5	53.6°	5	8.5	8.0
36.5°	9.7744	10	9.8692	16	0.1308	9.9052	6	53.5°	6	10.2	9.6
36.6°	9.7754	10	9.8708	16	0.1292	9.9046	6	53.4°	7	11.9	11.2
36.7°	9.7764		9.8724	16	0.1276	9.9041	5	53.3°	8	13.6	12.8
36.8°	9.7774	10	9.8740	16	0.1260	9.9035	6	53.2°	9	15.3	14.4
36.9°	9.7785	11	9.8755	15	0.1245	9.9029	6	53.1°			
37.0°	9.7795	10	9.8771	16	0.1229	9.9023	6	53.0°	1	1.5	
37.1°	9.7805		9.8787	16	0.1213	9.9018	5	52.9°	2	3.0	
37.2°	9.7815	10	9.8803	16	0.1197	9.9012	6	52.8°	3	4.5	
37.3°	9.7825	10	9.8818	15	0.1182	9.9006	6	52.7°	4	6.0	
37.4°	9.7835		9.8834	16	0.1166	9.9000	6	52.6°	5	7.5	
37.5°	9.7844	9	9.8850	16	0.1150	9.8995	5	52.5°	6	9.0	
37.6°	9.7854	10	9.8865	15	0.1135	9.8989	6	52.4°	7	10.5	
37.7°	9.7864	10	9.8881	16	0.1119	9.8983	6	52.3°	8	12.0	
37.8°	9.7874		9.8897	16	0.1103	9.8977	6	52.2°	9	13.5	
37.9°	9.7884	10	9.8912	15	0.1088	9.8971	6	52.1°			
38.0°	9.7893	9	9.8928	16	0.1072	9.8965	6	52.0°	1	1.1	1.0
38.1°	9.7903		9.8944	16	0.1056	9.8959	5	51.9°	2	2.2	2.0
38.2°	9.7913	10	9.8959	15	0.1041	9.8953	6	51.8°	3	3.3	3.0
38.3°	9.7922	9	9.8975	16	0.1025	9.8947	6	51.7°	4	4.4	4.0
38.4°	9.7932	10	9.8990	15	0.1010	9.8941	6	51.6°	5	5.5	5.0
38.5°	9.7941		9.9006	16	0.0994	9.8935	5	51.5°	6	6.6	6.0
38.6°	9.7951	9	9.9022	15	0.0978	9.8929	6	51.4°	7	7.7	7.0
38.7°	9.7960		9.9037	16	0.0963	9.8923	6	51.3°	8	8.8	8.0
38.8°	9.7970	10	9.9053	15	0.0947	9.8917	5	51.2°	9	9.9	9.0
38.9°	9.7979	9	9.9068	16	0.0932	9.8911	6	51.1°			
39.0°	9.7989	10	9.9084	15	0.0916	9.8905	6	51.0°	1	1.1	1.0
39.1°	9.7998		9.9099	16	0.0901	9.8899	5	50.9°	2	2.2	2.0
39.2°	9.8007	9	9.9115	15	0.0885	9.8893	6	50.8°	3	3.3	3.0
39.3°	9.8017	10	9.9130	16	0.0870	9.8887	5	50.7°	4	4.4	4.0
39.4°	9.8026		9.9146	15	0.0854	9.8880	6	50.6°	5	5.5	5.0
39.5°	9.8035	9	9.9161	15	0.0839	9.8874	6	50.5°	6	6.6	6.0
39.6°	9.8044	9	9.9176	16	0.0824	9.8868	5	50.4°	7	7.7	7.0
39.7°	9.8053		9.9192	15	0.0808	9.8862	6	50.3°	8	8.8	8.0
39.8°	9.8063	10	9.9207	15	0.0793	9.8855	7	50.2°	9	9.9	9.0
39.9°	9.8072	9	9.9223	16	0.0777	9.8849	6	50.1°			
40.0°	9.8081		9.9238	15	0.0762	9.8843	6	50.0°	1	1.1	1.0
	log cos	diff.	log cot	com. diff.	log tan	log sin	diff.	Angle			

50°-55°

TABLE OF NATURAL VALUES OF THE TRIGONOMETRIC FUNCTIONS

Angle	sin	cos	tan	cot	sec	csc	
0°	.0000	1.0000	.0000	∞	1.0000	∞	90°
1°	.0175	.9998	.0175	57.290	1.0002	57.299	89°
2°	.0349	.9994	.0349	28.636	1.0006	28.654	88°
3°	.0523	.9986	.0524	19.081	1.0014	19.107	87°
4°	.0698	.9976	.0699	14.300	1.0024	14.336	86°
5°	.0872	.9962	.0875	11.430	1.0038	11.474	85°
6°	.1045	.9945	.1051	9.5144	1.0055	9.5668	84°
7°	.1219	.9925	.1228	8.1443	1.0075	8.2055	83°
8°	.1392	.9903	.1405	7.1154	1.0098	7.1853	82°
9°	.1564	.9877	.1584	6.3138	1.0125	6.3925	81°
10°	.1736	.9848	.1763	5.6713	1.0154	5.7588	80°
11°	.1908	.9816	.1944	5.1446	1.0187	5.2408	79°
12°	.2079	.9781	.2126	4.7046	1.0223	4.8097	78°
13°	.2250	.9744	.2309	4.3315	1.0263	4.4454	77°
14°	.2419	.9703	.2493	4.0108	1.0306	4.1336	76°
15°	.2588	.9659	.2679	3.7321	1.0353	3.8637	75°
16°	.2756	.9613	.2867	3.4874	1.0403	3.6280	74°
17°	.2924	.9563	.3057	3.2709	1.0457	3.4203	73°
18°	.3090	.9511	.3249	3.0777	1.0515	3.2361	72°
19°	.3256	.9455	.3443	2.9042	1.0576	3.0716	71°
20°	.3420	.9397	.3640	2.7475	1.0642	2.9238	70°
21°	.3584	.9336	.3839	2.6051	1.0711	2.7904	69°
22°	.3746	.9272	.4040	2.4751	1.0785	2.6695	68°
23°	.3907	.9205	.4245	2.3559	1.0864	2.5593	67°
24°	.4067	.9135	.4452	2.2460	1.0946	2.4586	66°
25°	.4226	.9063	.4663	2.1445	1.1034	2.3662	65°
26°	.4384	.8988	.4877	2.0503	1.1126	2.2812	64°
27°	.4540	.8910	.5095	1.9626	1.1223	2.2027	63°
28°	.4695	.8829	.5317	1.8807	1.1326	2.1301	62°
29°	.4848	.8746	.5543	1.8040	1.1434	2.0627	61°
30°	.5000	.8660	.5774	1.7321	1.1547	2.0000	60°
31°	.5150	.8572	.6009	1.6643	1.1666	1.9416	59°
32°	.5299	.8480	.6249	1.6003	1.1792	1.8871	58°
33°	.5446	.8387	.6494	1.5399	1.1924	1.8361	57°
34°	.5592	.8290	.6745	1.4826	1.2062	1.7883	56°
35°	.5736	.8192	.7002	1.4281	1.2208	1.7434	55°
36°	.5878	.8090	.7265	1.3764	1.2361	1.7013	54°
37°	.6018	.7986	.7536	1.3270	1.2521	1.6616	53°
38°	.6157	.7880	.7813	1.2799	1.2690	1.6243	52°
39°	.6293	.7771	.8098	1.2349	1.2868	1.5890	51°
40°	.6428	.7660	.8391	1.1918	1.3054	1.5557	50°
41°	.6561	.7547	.8693	1.1504	1.3250	1.5243	49°
42°	.6691	.7431	.9004	1.1106	1.3456	1.4945	48°
43°	.6820	.7314	.9325	1.0724	1.3673	1.4663	47°
44°	.6947	.7193	.9657	1.0355	1.3902	1.4396	46°
45°	.7071	.7071	1.0000	1.0000	1.4142	1.4142	45°
	cos	sin	cot	tan	csc	sec	Angle

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